# *REPUBLIC OF KOREA*

# COUNTRY PROFILE

**IMPLEMENTATION OF AGENDA 21:
REVIEW OF PROGRESS MADE SINCE THE
UNITED NATIONS CONFERENCE ON
ENVIRONMENT AND DEVELOPMENT, 1992**

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Division for Sustainable Development
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# *REPUBLIC OF KOREA*

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**Date:** 19 December 1996

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*All statistics are rendered as provided by the respective Governments.*

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## ACRONYMS

| | |
|---|---|
| APELL | Awareness and Preparedness for Emergencies at Local Level |
| CFC | chlorofluorocarbon |
| CGIAR | Consultative Group on International Agriculture Research |
| CILSS | Permanent Inter-State Committee on Drought Control in the Sahel |
| EEZ | exclusive economic zone |
| ECA | Economic Commission for Africa |
| ECE | Economic Commission for Europe |
| ECLAC | Economic Commission for Latin America and the Caribbean |
| ELCI | Environmental Liaison Centre International |
| EMINWA | environmentally sound management of inland water |
| ESCAP | Economic and Social Commission for Asia and the Pacific |
| ESCWA | Economic and Social Commission for Western Asia |
| FAO | Food and Agriculture Organization of the United Nations |
| GATT | General Agreement on Tariffs and Trade |
| GAW | Global Atmosphere Watch (WMO) |
| GEF | Global Environment Facility |
| GEMS | Global Environmental Monitoring System (UNEP) |
| GEMS/WATER | Global Water Quality Monitoring Programme |
| GESAMP | Joint Group of Experts on the Scientific Aspects of Marine Pollution |
| GIPME | Global Investigation of Pollution in Marine Environment (UNESCO) |
| GIS | Geographical Information System |
| GLOBE | Global Legislators Organisation for a Balanced Environment |
| GOS | Global Observing System (WMO/WWW) |
| GRID | Global Resource Information Database |
| GSP | generalized system of preferences |
| HIV | human immunodeficiency virus |
| IAEA | International Atomic Energy Agency |
| IAP-WASAD | International Action Programme on Water and Sustainable Agricultural Development |
| IARC | International Agency for Research on Cancer |
| IBSRAM | International Board of Soil Resources and Management |
| ICCA | International Council of Chemical Associations |
| ICES | International Council for the Exploration of the Sea |
| ICPIC | International Cleaner Production Information Clearing House |
| ICSC | International Civil Service Commission |
| ICSU | International Council of Scientific Unions |
| IEEA | Integrated environmental and economic accounting |
| IFAD | International Fund for Agricultural Development |
| IGADD | Intergovernmental Authority for Drought and Development |
| IGBP | International Geosphere-Biosphere Programme (ICSU) |
| IGBP/START | International Geosphere-Biosphere Programme/Global Change System for Analysis, Research and Training |
| ILO | International Labour Organisation |
| IMF | International Monetary Fund |
| IMO | International Maritime Organization |
| INFOTERRA | International Environment Information system (UNEP) |
| IOC | Intergovernmental Oceanographic Commission |
| IPCC | Intergovernmental Panel on Climate Change |
| IPCS | International Programme on Chemical Safety |
| IPM | integrated pest management |
| IRPTC | International Register of Potentially Toxic Chemicals |
| ITC | International Tin Council |
| ITTO | International Tropical Timber Organization |

## ACRONYMS (Cont'd)

| | |
|---|---|
| IUCN | International Union for Conservation of Nature and Natural Resources |
| MARPOL | International Convention for the Prevention of Pollution from Ships |
| OECD | Organisation for Economic Cooperation and Development |
| PGRFA | plant genetic resources for agriculture |
| PIC | prior informed consent procedure |
| SADCC | South African Development Co-ordination Conference |
| SARD | sustainable agriculture and rural development |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Programme |
| UNDRO | Office of the United Nations Disaster Relief Coordinator |
| UNEP | United Nations Environment Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNFPA | United Nations Population Fund |
| UNICEF | United Nations Children's Fund |
| UNIDO | United Nations Industrial Development Organization |
| UNU | United Nations University |
| WCP | World Climate Programme (WMO/UNEP/ICSU/UNESCO) |
| WFC | World Food Council |
| WHO | World Health Organization |
| WMO | World Meteorological Organization |
| WWF | World Wide Fund for Nature (also called World Wildlife Fund) |
| WWW | World Weather Watch (WMO) |

## OVERVIEW

(You may wish to use pages v and vi to briefly present your national position five years after UNCED)

## FACT SHEET

**NAME OF COUNTRY: Republic of Korea**

1. Name of Key National Sustainable Development Coordination Mechanism(s)/Council(s).

Environmental Preservation Committee

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2. Membership/Composition/Chairperson:_____

2a. List of ministries and agencies involved:

Chairman : Mr. Soo-Sung Lee, Prime Minister
Minister of Finance and Economy
Minister of Home Affairs
Minister of Trade, Industry and Energy
Minister of Construction and Transportation
Minister of Environment

2b. Names of para-statal bodies and institutions involved, as well as participating of academic and private sector bodies: (complete list on the following page)

Academic sector-3 members
Business sector-1 member
Media sector-1 member

2c. Names of non-governmental organizations involved: (complete list on the following page)

Non-governmental organizations-4 members

3. Mandate role of above mechanism/council:

Coordination of ministries in establishing environment related policy objectives, developing tools, and helping to mobilize resources to implement Agenda 21.

4. If available, attach a diagram (organization chart) showing national coordination structure and linkages between ministries:

Environmental Preservation Committee
Chairman ; Mr. Soo-Sung Lee, Prime Minister

( complete list on the following page )

National Council of Environmental Organizations
Chairman ; Mr. Yul Choi, Secretary General of the Korean Federation for Environmental Movement

( complete list on the following page )

Advisory Committee for Environmental Preservation

It consists of 18 specialists including scholars and NGO representatives.

Working Committee for Environmental Preservation
Chairman; Mr. Suh-Sung Yoon,
Vice Minister of Environment

13 Sub Advisory Committee :

They advise and give technical consultations on air and water quality, waste treatment, and etc. respectively.

**List of Environment Preservation Committee**

Chairman ; Mr. Soo-Sung Lee , Prime Minister

Member ; Mr. Seung-Soo Han, Minister of Finance and Economy
Mr. Woo-Suk Kim, Minister of Home Affair
Mr. Jae-Yoon Park, Minister of Trade, Industry and Energy
Mr. Kyung- Suk Choo, Minister of Construction and Transportation
Mr. Jong Taeck Chung, Minister of Environment
Mr. Sang-Ha Kim, President of the Korea Chamber of Commerce and Industry
Mr. Kyu-E Lee, President of Korea Saemaul Undong Center
Ms. Kwang-Mo Chung, President of National Council of Consumer Protection Organizations
Ms. Yun-Sook Lee, President of Korea National Council of Women
Mr. E-Hyock Kwon, Professor Emeritus of Seoul National University
Mr. Byung-Hoon Ahn, Adviser of Korea News Editors' Association
Mr. Yoon-Heun Park, President of Taegu University
Mr. In-Kyu Lee, President of Korean National Council for Conservation of Nature
Mr. Yung-Hee Rho, President of Korea Research Council on Environmental Science

**List of National Council of Environmental Organizations**

Chairman ; Mr. Yul Choi, Secretary General of Korean Federation for Environmental Movement

Member ; Mr. Nam-Joo Lee, Secretary General of The National Council of YMCAs of Korea
Mr. Jae-Hyun Yoo, Secretary General of Citizen's Coalition for Economic Justice
Mr. Jin-You song, Vice President of the Kwang Rok Hoe
Ms. Yung-Chung Kim, President of National YWCA of Korea
Ms. Chun-Joo Kim, President of Korean Federation of House Wives Club
Mr. Won Jang, Secretary General of Green Korea
Mr. Jae-Ok Kim, Secretary General of Citizen's Alliance for Consumer Protection of Korea
Mr. Ki-Jun Kim, Secretary General of The "One Heart - One Body" Movement
Mr. Young-Lak Kim, President of Korea Church Research Institute for peace and Integrity of Creation
Mr. Jung-Gil Ryoo, Secretary General of Buddhist Academy for Ecological Awakening
Ms. Kyung-Sook Lee, President of Korea Women's Association for Democracy and Sisterhood
Mr. Sang-Guk Lee, Executive Director of Hansalim Network
Mr. Sang-Jong Kim, President of Environment & Pollution Research Institute
Mr. Mun-Ha Yu, President of Korea Environmental Manager Federation
Mr. Yong-Kil Jeun, Vice President of the Korea Environmental Preservation Association

KOREA

**AGENDA 21 CHAPTER 2:** **INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES (with special emphasis on TRADE)**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Korea recognizes that stabilisation of the free trade system under the guidance of the WTO, as well as the alleviation of the financial pressure of developing countries is essential to promoting sustainable development. Korea also recognizes that the consensus of different nations in such areas as improvement of market access opportunities is crucial for international trade and environmental cooperation.

- Korea welcomes the efforts of the WTO to promote a fair, stable, and predictable world trade system and will actively participate in multilateral discussions and other international efforts to harmonize and incorporate trade and environmental issues.

- Korea believes that trade measures for environmental purposes and trade related environmental policies should not be unnecessary trade barriers and disguised means of protection, but be conformed to the principles of non-discrimination and the least restrictiveness, etc.

- The people and the government of Korea recognize that poverty and financial distress of developing countries are major impediments to sustainable development.

- To support developing countries, Korea established the Economic Development Cooperation Fund in 1987 and the Korea Overseas International Cooperation Agency in 1991. These institutions run various environmental cooperation programs to developing countries.

- Korea will contribute as much as 5.6 million US dollars to the Global Environment Facility during the period of 1995-1997 and participate actively in the work of international organizations such as the WTO to drive sustainable development forward through trade liberalization. Furthermore, Korea has received an invitation to join OECD on October 1996. Thus, it will cooperate to integrate common objectives with developed countries.

- Furthermore, to meet the challenges of reconciling environment and development, these tasks are under consideration: the pursuit of sustainable development through trade liberalization, the enhancement of mutual support for trade and environment, the provision of financial resources and mechanisms for developing countries, and the promotion of environmentally conscious and balanced economic development.

## Cross-Sectoral Issues

1. **Decision-Making Structure:** The State Council decides major policies related to environment and development. The Working Committee for Environmental Preservation reviews policies before submitting them to the Environment Preservation Committee.

2. **Capacity-Building/Technology Issues:** Based on the Science and Technology Promotion Act, Korea has been providing Thailand, Malaysia, India, and Kenya with agricultural technology since 1972. Korea is strengthening the cooperation programs and activities to support developing countries through the Economic Development Cooperation Fund and the Korea Overseas International Cooperation Agency.

3. **Major Groups:** Non-governmental parties participate in the environment related decision-making processes through the Environment Preservation Committee, the National Council of Environmental Organizations and other advisory committees.

4. **Finance:** Korea is contributing as much as 5.6 million US dollars to GEF during the period of 1995-1997 and planning to increase Official Development Assistance, taking into account domestic financial resources.

5. **Regional/International Cooperation:** To discuss the pollution problem of the Yellow Sea, which borders both Korea and China, and to discuss the moving of transboundary pollution materials in Asia, Korea is contributing to North-East Asia environmental cooperation and is actively involved and cooperating with APEC to preserve the environment in the Asia-Pacific region. Korea has initiated and will expand international economic cooperation programs to aid sustainable development in the works of various international organizations, such as OECD, UNCSD, UNCTAD.

*STATISTICAL DATA/INDICATORS*

| | *1990* | *1991* | *1992* | *Latest 1993* |
|---|---|---|---|---|
| ***Investment : percentage of GDP*** | 39.1 | 39.1 | 36.8 | 35.2 |
| | | | | |
| | | | | |
| | | | | |

**AGENDA 21 CHAPTER 3: COMBATING POVERTY**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- The percentage of the population living in absolute poverty in Korea has drastically decreased due to rapid economic growth. Absolute poverty comprised approximately 40.9 percent of the total population in 1965, but within three decades, it decreased to less than 3.9 percent in 1995. The government is currently implementing the livelihood protection system to secure the basic livelihood for persons who are not able to work, while providing support for the self- reliance of persons who are unemployed but capable of working.

- Focus of national strategies:

o Securing the minimum standard of living for the poor
o Improving work capabilities through occupational training, increasing work opportunities for the poor, and providing business fund loans
o Increasing welfare service for the elderly, the disabled, and children
o Supporting the procurement of housing (e.g., public housing for the poor, convalescence home) and providing loan of reservation for the poor
o Increasing the extent of medical insurance benefits
o Enlarging the boundary of unemployment insurance

- Highlight activities aimed at the poor and linkages to the environment

o Introduction of unemployment insurance(1995)
o Including farmers in the national pension plan(1995)
o Securing 100% the minimum life for the poor by 1998
o Introducing an urban regional pension plan and a non-contributory pension plan
o Increasing the maximum number of days covered by medical insurance to one full year for the elderly and the disabled.

## Cross-Sectoral Issues

1. **Decision-Making Structure:** The Ministry of Health and Welfare is responsible for the policies concerning public welfare support, health insurance and pension plan. Specifically, the National Welfare Planning Board was established in 1995, which is chaired by the Health and Welfare Minister and comprised of government bureaucrats, scholars, researchers, and welfare program managers. The committee plays a key role in constructing a new framework for welfare policies, which includes evaluating the health and welfare status of the country, making short and long term plans, and putting priority on various policies concerning health and welfare issues.

2. **Capacity-Building/Technology Issues:** Present public assistance programs include livelihood aid, health care, educational assistance, funeral expense support, small business loans, job creation projects, and etc.

3. **Major Groups:** Non-governmental parties are active in advisory committees concerning welfare policies. Various anti-poverty programs are promoted by NGOs, such as welfare foundations, religious organizations, and volunteer groups.

4. **Finance:** 4.5% of GDP was expended for social security in 1994, which comprised 8.5% of the central government's budget.

5. **Regional/International Cooperation:**

**STATISTICAL DATA/INDICATORS**

| | 1985 | 1990 | 1992 | Latest 1995 |
|---|---|---|---|---|
| Unemployment (%) | 4.0 | 2.4 | 2.4 | 2.0 |
| Population living in absolute poverty | N.A | 2,273,000 | 2,256,000 | 1,755,000 |
| Public spending on social sector % | 28.1 | 28.7 | 37.5 | 34.9 |
| Other data | | | | |

KOREA

**AGENDA 21 CHAPTER 4: CHANGING CONSUMPTION PATTERNS**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- The unsustainable lifestyle has a tremendous influence on the environment. With rapid economic growth, the consumption and production patterns in Korea are becoming like those of developed countries. This means that the government, industries, families and individuals should change their consumption patterns that are detrimental to the environment. Korea is putting high priority on policies which improve efficiency in the use of energy and natural resources and developing effective means to reduce wastes and promote recycling. In the 90's, globalization of the economy and the balanced growth between sectors, which are most likely to affect consumption patterns, are the principal objectives of the Korean government. Especially after the Earth Summit held in Rio in 1992, the concept of Sustainable Development is relatively well accepted by the public.
- An overview of selected measures for changing consumption patterns is as follows;

A. Efficient use of energy and natural resources

In order to promote efficient use of energy and natural resources, Korea is adopting regulatory policies, economic instruments and social policies. For example, water fees will gradually be raised to reflect the full cost of supplying and preserving the quality of water and maintaining the resource base. The conservation of resource base is promoted by a national campaign for water conservation. The wide use of water-saving equipment is another way to reduce the waste of water resources. Standardization of equipment is now promoted and legal recommendations are used through the amendment of laws related to construction and housing that promote the installation of water saving equipment. The adoption of a water reclamation and recycling system has been initiated and preferential taxation is given to such facilities. The government of Korea encourages the development of energy-efficient motor vehicles in conjunction with improved public transportation systems and energy-efficient home appliances to make efficient use of energy. In 1993, the government prepared the Five Year Plan of Energy Saving intended to provide fundamental policy directions on energy management and consumption. The objectives of the Plan are: to reform the existing industrial transportation and building structures into energy-saving facilities; to facilitate the private sector's investment in energy-saving facilities by providing preferential financing and taxation; and to develop and commercialize energy-saving technologies at an early stage. To this end, hundreds of specific programs were prepared.

B. Waste reduction and recycling promotion

The Volume-Based Waste Fee System was introduced in January 1995. Under the system, people discharging wastes are required to pay fees depending on the volume of wastes discharged. This system has resulted in the reduction of waste generation and an increase in volume of recyclables. The Deposit-Refund System for products containing toxic materials or discharging mass wastes went into effect in 1992 to reduce the volume of waste by applying the Polluter Pays Principle, and to encourage the retrieval of reusable items. The Waste Treatment Charge System was established in 1992 to curb consumption of products and containers which are difficult to collect, dispose, recycle, or manage. The two major systems will be revised to ensure effectiveness and efficiency, and substantially internalize the cost of environmental pollution.

C. Raising public awareness

The government of Korea encourages the rise of informed consumers by providing information that can assist consumers in selecting environmentally sound products. The eco-labelling program has become a valuable tool for helping consumers identify the less-polluting products and encouraging industries to develop and produce a wide range of less-polluting products which meet higher standards. The Eco-Mark Association, a private body established on June 27, 1992, is composed of representatives from consumer organizations, environmental organizations, businesses, and distribution sectors, as well as environmental experts and journalists.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Ministry of Environment reviews the progress achieved in this field. Each ministry formulates and implements policies and programs related to changing consumption patterns, such as end-use energy consumption, waste management, consumptive use of water resources, urban/land use planning, and etc.

2. **Capacity-Building/Technology Issues:** see status report

3. **Major Groups:** The consumer movement, which began in the 70's, has developed from the Consumer Protection Movement of the 70's to the environment protection activities of the 80's and to the current Movement for Sustainable Consumption, which includes the suppression of over-consumption and the activation of recycled product usage. For example, the 'carrying handbasket' movement is a prevailing movement well-responded by many groups and individuals. Direct trade with farmers who are farming organic agricultural products is a way of putting sustainable consumption by consumers into practice. District-based information bulletins which intermediate the trade of used items are effective tools to facilitate the recycling and reuse of products. Other activities such as the 'frugal market', which is a type of flea market, are operated by district administration of Seoul city in cooperation with women's association. With the increasing preference for environmentally-friendly products amongst consumers, the business sector is also actively engaging in the sustainable production and consumption movement by adopting energy saving and environmentally-friendly processes.

4. **Finance:**

5. **Regional/International Cooperation:** The government of Korea hosted the Workshop on Policy Measures for Changing Consumption Patterns in 1995 to contribute to the international work program of the UN Commission on Sustainable Development. Also, Korea is participating in the regional and international discussions and forums as an effort to change consumption patterns.

**STATISTICAL DATA/INDICATORS**

| | 1985 | 1990 | 1992 | Latest 1994 |
|---|---|---|---|---|
| GDP per capita (current US$) | 2,311 | 5,916 | 7,052 | 8,537 |
| Real GDP growth (%) | 6.5 | 9.5 | 5.1 | 8.6 |
| Annual energy consumption per capita (Kg. of oil equivalent per capita) | 1,380 | 2,170 | 2,660 | 3,090 |
| Motor vehicles in use per 1000 inhabitants | 27.3 | 79.2 | 119.8 | 166.6 |
| Other data | | | | |

KOREA

**Government policies affecting consumption and production.**

**1. Goals and Agents (Stakeholders)**

**Indicate with a (✓) those agents which your Governments policies are meant most to influence.**

| Agents / Goals | Producers | Local authorities | Central Government | Households | Civil society |
|---|---|---|---|---|---|
| Material efficiency | ✓ | | | | |
| Energy efficiency: | | | | | |
| Transport | | ✓ | ✓ | | ✓ |
| Housing | | | ✓ | ✓ | |
| Other | ✓ | | | ✓ | |
| Waste: | | | | | |
| Reduce | ✓ | | | ✓ | ✓ |
| Reuse | ✓ | | | ✓ | ✓ |
| Recycle | ✓ | | | ✓ | ✓ |

Comments:

2. Means & Measures and Agents (Stakeholders)

Indicate with an (R) those agents who assume primary responsibility for any of the policy measures indicated; indicate with an (I) the agents for which the impact is expected to be especially significant.

| Means & Measures / Agents | Producers | Local authorities | Central Government | Households | Civil Society |
|---|---|---|---|---|---|
| Improving understanding and analysis | | | | | |
| Information and education (e.g., radio/TV/press) | I | | R | | I |
| Research | I | | R | | |
| Evaluating environmental claims | I | R | R | I | I |
| Form partnerships | I | R | R | | I |
| Applying tools for modifying behaviour | | | | | |
| Community based strategies | | R | | I | |
| Social incentives/disincentives (e.g., ecolabelling) | R/I | | | | R |
| Regulatory instruments | I | | R | I | |
| Economic incentives/disincentives | I | | R | I | |
| Voluntary agreements of producer responsibility for aspects of product life cycle | R/I | | R | I | |
| Provision of enabling facilities and infrastructure (e.g., transportation alternatives, recycling) | I | R | R | I | |
| Procurement policy | I | R | R | | |
| Monitoring, evaluating and reviewing performance | | | | | |
| Action campaign | I | | | | R |
| Other (specify) | | | | | |

Comments:

**AGENDA 21 CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Korea's fertility rate has rapidly declined as a result of the successful implementation of family planning programs. Korea's population growth rate declined from 3.0 percent in 1960 to 0.93 percent in 1990. The population growth rate still continues to decline, and it is expected to stabilize in the year 2021.

- Korea has reached the last stage of demographic transition. The drastic fertility rate below the replacement level since the late 1980's has brought about new population problems, such as population aging, labour force shortages, and a decrease in the school-age population.

- In this sense, the government adapted new population policies in 1996 with an emphasis on the quantitative and welfare context for the advancement of the quality of life.

- Future directions of the government policy contain the following programme areas: a) developing and disseminating knowledge concerning the links between population, environment, and sustainable development; b) formulating integrated policies for environmental and social-economic development, taking into account demographic trends and factors; c) implementing environmental and socio-economic development programmes at the local level.

☐ Check the appropriate boxes below:

| | | | | |
|---|---|---|---|---|
| • Governments view on population growth | ☐ Too high | ☐ Too low | ☑ Satisfactory | |
| • Governments view on fertility level | ☐ Too high | ☐ Too low | ☑ Satisfactory | |
| | **To lower the rate** | **To maintain status quo** | **To raise the rate** | |
| • Governments intervention on population growth | ☐ | ☑ | ☐ | |
| • Governments view on intervention on fertility level | ☐ | ☑ | ☐ | |

**Cross-Sectoral Issues**

**1. Decision-Making Structure:** The Ministry of Health and Welfare is the body most directly involved with demographic issues.

**2. Capacity-Building/Technology Issues:**

- Planning & Management
- Budgetary Assistance
- Supervision
- Research & Evaluation
- Information, Education & Communication
- Training

**3. Major Groups:**

- Within the Ministry of Health and Welfare, the Family Health & Sanitation Division under the Bureau of Public Health
- KIHASA(Korea Institute for Health & Affairs)
- PPFD(Planned Parenthood Federation of Korea)

**4. Finance:** UNFPA, ESCAP, the Government of Korea

**5. Regional/International Cooperation:**

a. Implementation of Technical Cooperation of Developing Countries programmes with UNFPA
b. Population Information Network activities as one of the Population Information Dissemination Centers designated by the ESCAP
c. Plans to hold a seminar on population related issues in March/April of 1997

STATISTICAL DATA/INDICATORS

| | 1990 | 1993 | Latest 1996 |
|---|---|---|---|
| Population (Thousands) mid-year estimates | 42,869 | 44,056 | 45,248 |
| Annual rate of increase (1990-1993) | 0.9 | | 0.9 |
| Surface area ($Km^2$) | 99,394 | | |
| Population density (people/$Km^2$) | 432 | 443 | 456 |
| Other data | | | |

## AGENDA 21 CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- The general health status in Korea has greatly improved in the past three decades and it is now in good condition, as shown by the changes in relevant social indicators, such as in the life expectancy and infant mortality rate. The introduction of a National Medical Insurance System in 1989 has contributed to the upgrading of health levels. Recent improvements in living conditions have brought about reduced prevalence rate of communicable disease. However, bad eating habits, workaholism, lack of physical exercise, smoking and drinking behaviours are all contributing to the growth of chronic diseases. Therefore, there is a growing need for disease prevention and health promotion programs that will focus on improving environmental conditions and life-styles. The guiding principle of the recent Korean health policy is the advancement of service quality in order to prevent and treat a variety of diseases for everyone, regardless of social class and residential area. The rapid economic growth has led to adjustments in health and social fields. Some national public health programs are directed toward health education to prevent smoking, drinking and the spread of HIV/AIDS. Social and economic pressures in Korea have affected workers both physically and mentally, calling for large scale social and health programs.

- These are some of the measures taken by the government for the protection and promotion of national health while continuing sustainable development: improvement of the quality of public health care, improvement of primary health care for farming and fishing communities with special emphasis on development and enforcement of lifelong health management programs, provision of safe water supply, an increase of medical service provisions and planning capacity for regional communities, and expansion of disease prevention activities.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Ministry of Health and Welfare is most directly involved with health issues. However, local governments sometimes make their own decisions on local plans and programs.

2. **Capacity-Building/Technology Issues:** The Ministry of Health and Welfare will provide preventive healthcare for everyone and construct a health information system and health surveillance system.

3. **Major Groups:** Under the Ministry of Health and Welfare, there are: Public Health Bureau, Health Centers, Health Subcenters, National Institute of Health, National Medical Center, National Mental Hospital, National Tuberculosis Hospital, National Rehabilitation Center and Korea Institute for Health and Social Affairs.

4. **Finance:** The expenditure of the MOHW equalled 4.0% of the general account of the national budget in 1995 fiscal year and public health-related expenditure totalled US$18,250,000.

5. **Regional/International Cooperation:**

a. Implementation of health research programs, seminar and health worker's training programs supported by WHO;
b. Implementation of a project related to extension of health and medical services affiliation with the United Nations.

**STATISTICAL DATA/INDICATORS**

| | 1980 | 1990 | Latest 1995 |
|---|---|---|---|
| Life expectancy at birth | | | |
| Male | 62.7 | 67.4 | 69.5 |
| Female | 69.1 | 75.4 | 76.6 |
| Infant mortality (per 1000 live births) | 17.3 | 12.8 | 8.8 |
| Maternal mortality rate (per 100000 live births) | 42 | 30 | - |
| Access to safe drinking water (% of population) | 54.6 | 78.5 | 82.1('94) |
| Access to sanitation services (% of population) | N.A | N.A | N.A |
| Population coverage of national health security program (% of population) | 29.8 | 91.1 | 95.3 |

## AGENDA 21 CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- The promotion of a human settlement development plan is to improve the quality of socioeconomic and environmental situations. Since 1988, the government has implemented the Two Million Housing Construction Plan. Although increasing supplies have significantly eased housing shortage problems, the problem persists, especially in highly populated urban areas. The widening gap in the income level, disparity of living conditions in different regions, and sudden increases in housing prices and rent have caused increasing financial burdens on non-homeowners. Because of the continuing trend towards a nuclear family unit and increasing population, a rational plan applicable to wide areas was required to meet the increased demands for housing. The government responding to such demand has adopted diverse plans and policies to optimize housing supplies. These plans include the Third Comprehensive National Development Plan in 1991 and the New Five Year Economic Development Plan in 1993. Furthermore, the promotion of stable human settlement development is being implemented through various regional plans, farming and fishing village settlement plans, and remote land development plans. Efforts to improve basic living conditions, such as in housing, transportation, and environment center around resolving housing shortages, improving housing conditions, alleviating traffic congestion in cities, and maintaining a clean environment.

- Korea encourages resource saving and environmentally friendly land development plans, and promotes development policies that balance development and preservation. In order to create pleasant living conditions and to improve the quality of life, Korea is constructing energy conserving and environmentally sound traffic systems, such as a well-networked subway system, exclusive bicycle roads, rotaries and belt ways, and radial and circular transportation networks between metropolitan areas and their outskirts. In 1994, a bus-only lane system (designated by a blue line), which makes travelling by bus much faster during the rush hour, was introduced to some of the main roads in big cities to encourage the public to use buses. The local authorities plan to expand this system. In addition, the Law Concerning the Activation of the Use of Bicycle was enacted to promote the use of bicycles to alleviate urban traffic problems. This law includes provisions related to expanding the designation and construction of bicycle only lanes, and facilitating the use of land owned by the central and local governments for bicycle keeping facilities. Economic instruments, such as congestion fees on cars entering designated areas, high parking fees in public parking lots which have previously been open to the public without charge, and a heavy tax for households possessing more than one car, are major programs which have already been implemented. Moreover, comprehensive plans are underway to link traffic management with urban planning. For example, the development of multi-centered cities will disperse the concentration of traffic throughout the area. Instead of having people flocking to one area for work, school and/or for recreational purposes, financial and shopping district, schools, and etc. will be dispersed throughout the city and into the suburbs to alleviate human traffic as well as car traffic. In addition, the construction of the self-sufficient cities outside of Seoul will allow people to work and live in the cities without commuting to Seoul for their livelihood.

- Korea is developing waste recycling systems and environmentally safe waste disposal systems. In order to supply high quality water, the central government and local authorities are expanding wide area water supply systems, tap water conserving facilities, and drainage and sewage systems. Korea is also promoting recycling and safe waste treatment by introducing the Volume Based Collection Fee System and constructing sanitary landfill facilities in both metropolitan and provincial areas.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Ministry of Construction and Transportation is responsible for the designation of development-restricted areas. Inter-ministerial reviews and consultation processes are ensured by the law. The Ministry of Environment is responsible for environment related policies and programs including water and air quality management, waste management, and water supply and sewage treatment. Local authorities are the bodies mainly involved with urban and provincial programs in the areas under their jurisdiction. The National Comprehensive Construction Planning Board has decided to establish adequate comprehensive national development plans and to manage sustained policies optimizing housing supplies, promoting effective land use, improving basic environmental protection facilities, expanding transportation networks, and developing water resources.

2. **Capacity-Building/Technology Issues:** see status report

3. **Major Groups:** About 20 non-government members participate in the National Comprehensive Construction Planning Board. NGOs play an important role in raising public awareness on the negative effects of traffic on the environment.

4. **Finance:** The housing construction budget continues to make up 6 percent of the total GNP (1995, 2.1 billion US dollars).

5. **Regional/International Cooperation:** To promote environmentally friendly city development plans and to encourage implementation of sustainable development plans in building new cities, Korea will seek technical and financial support for planning and developing new cities from various international institutions, including the Sustainable Cities Program of Habitat II, the Regional Development Bank, and the World Bank.

**STATISTICAL DATA/INDICATORS**

| | 1990 | 1995 | |
|---|---|---|---|
| Urban population in % of total population | 82% | 86.5% | |
| Annual rate of growth of urban population (%) | 2.89% | 3.35% | |
| Largest city population (in % of total population) | 24.45% | 24.03% | |
| Other data | | | |

**AGENDA 21 CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING**
**(See pages vii and viii at the beginning of the profile)**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Environmental Impact Assessment and Integrated Environmental and Economic Accounting

o The EIA system was introduced in 1977 by the Environmental Preservation Act, and in 1993, the Environmental Impact Assessment Law was enacted. The EIA system aims to balance environmental preservation and economic development through the analysis and investigation of the impacts of certain development and business projects on the environment before implementation. In Korea, the EIA has been applied to 62 projects in 17 areas.

o To integrate environmental and economic aspects in decision-making, it is necessary to establish a system of Integrated Environmental and Economic Accounting(IEEA). With IEEA, the government(and potentially private firms) can obtain correct information on citizens' welfare. To efficiently prioritize investment and secure new revenue sources, the government introduced the Special Account for Environmental Improvement in January 1995. Revenue sources include various charges imposed on polluters, transfers from general and other accounts, loans from the National Bond Management Fund and foreign loans. Korea recently launched a project to establish an IEEA system based on the United Nations System of Integrated Environment and Economic Accounts(SEEA).

- Improving Decision-Making Systems of the Central Government and Local Authorities

o In the central government, sustainable development requires an interdepartmental coordination mechanism. In Korea, the Environmental Preservation Committee assumes the task of interdepartmental coordination for environmental issues. When a broader mandate is required, the State Council can be summoned.

o The recent introduction of local autonomy in the political system of Korea has brought about conflicts on environmental problems between central and local governments or between local governments themselves. Therefore, dispute settlement mechanisms are required to resolve the conflicts. Furthermore, basic principles and mechanisms predefining rights and obligations of related parties are also necessary to prevent such disputes in advance. For the reconciliation of conflicts, the government of Korea will activate a conciliatory mechanism such as "Local Autonomies Association."

- Economic Incentives

o The Emission Charge System(1983), the Environmental Improvement Charges(1991), the Deposit-Refund System for Waste Disposal(1992), the Waste Treatment Charge System(1992), the Volume-based Collection Fee System for Domestic Wastes(1995) are major environmental policy instruments utilizing economic incentives.

## Cross-Sectoral Issues

1. **Decision-Making Structure (please also refer to the fact sheet):** The Ministry of Environment is responsible for the policies relating to the EIA. In order to the ensure objectivity of the EIA, Central and Regional Committees for EIA, which consist of professors, engineers, and specialists, review the assessment. MOE manages the Special Account for Environmental Improvement and decides the policies relating to economic instruments.

2. **Capacity-Building/Technology Issues:** See Status Report

3. **Major Groups:** Residents are invited to the hearing process of EIA. Those who plan to carry out projects that are subject to EIA must prepare draft assessments, which are made public, and hold a public hearing on the proposed project.

4. **Finance:**

5. **Regional/International Cooperation:** Korea actively participates in regional environmental cooperative mechanisms in Northeast Asia, including the Northeast Asia Regional Environmental Programme (NEAREP), the Northeast Asia Conference on Environmental Cooperation (NEAEC), and the Northwest Pacific Action Plan (NOWPAP). The activities of these mechanisms include the exchange of information on the role of local authorities,the use of economic instruments, and energy efficient technologies, etc.

## AGENDA 21 CHAPTER 9: PROTECTION OF THE ATMOSPHERE

**NATIONAL PRIORITY:**

**STATUS REPORT:**

**The Montreal Protocol and its Amendments**

Every four years, starting in 1990, the parties shall assess the control measures in the protocol on the basis of available scientific, environmental, technical and economic information.

Not more than 9 months after the close of a calendar year, each country owes data on annual production, use, destruction, imports and exports of controlled substances (from Annex A and Annex B of the Protocol).

- Montreal Protocol (1987) signed in 1992
- London Amendment (1990) signed in 1992
- Copenhagen Amendment (1992) signed in 1994
- The latest report to the Montreal Protocol Secretariat were prepared in 1995

**United Nations Framework Convention on Climate Change**

Parties shall: (a) develop and publish periodic national inventories of anthropogenic emissions; (b) publish, formulate and update national programmes to mitigate climate change by addressing emissions by sources and sinks; (c) promote and cooperate in development of technologies, practices and processes that control or reduce emissions; (d) promote sustainable management and promote and cooperate in the conservation and enhancement as appropriate of sinks and reservoirs, etc.

Developed countries shall develop national policies and take measures (that demonstrate leadership role).

Developed countries to provide financial resources.

Each party shall report: (a) a national inventory of anthropogenic emissions be sources and removals by sinks of all greenhouse gases not controlled by the Montreal protocol; (b) a general descriptions of steps taken or envisaged; (c) any other information the party considers relevant. Developed countries must report a detailed description of policies and measures it has adopted. Parties other than developed countries must submit their report within 3 years of accession or upon financial wherewithal. Least developed countries may submit at their discretion.

- UNFCCC was signed in 1993.
- The most current report to the UNFCCC Secretariat will be submitted in 1997.

**Additional comments relevant to this chapter**

- Major threats to the atmosphere in Korea derive from increasing intensity of urban air pollution and a high level of energy consumption. The rapid increase of automobiles, traffic congestion, ozone concentration, and high industrialization and economic development, all pose serious problems to the environment.

- In response to this problem, Korea has formulated a number of policies and regulations. In order to reduce emission of air pollutants, the government has designated industrial facilities as emission facilities and has continued to monitor and regulate emission standards being met at these facilities. The government has lowered the maximum permissible sulphur content of diesel and B-C oil and has encouraged the use of cleaner burning fuels. Since 1987, unleaded gasoline has been produced and sold in Korea. Emission of air polluting substances such as $SO_2$ , TSP, etc. has been reduced as the result of the implementation of new air pollution abatement policies.

- Other national plans include the introduction of the Ozone Warning System and the improvement of Emission Charge System, the urban transportation system and environmental standards. The government will also regulate Volatile Organic Compounds(VOCs) emission facilities by conducting a comprehensive review of the harmful effects of volatile organic compounds on the environment, and improve the emission inspection system that measures the actual emission of moving automobiles. In addition, multilateral environmental agreements such as the Montreal Protocol and the Convention on Climate Change are being carefully followed. Regional cooperation is being promoted in efforts to strengthen joint research and to build an information exchange system in East Asia.

## Cross-Sectoral Issues

1. **Decision-Making Structure:** The Ministry of Environment is responsible for policies relating to air quality preservation. An inter-ministerial meeting can be summoned to coordinate different opinions. The Ministry of Trade, Industry and Energy is responsible for the supply of low-sulphur oil and research and development into new energy sources.

2. **Capacity-Building/Technology Issues:** The automatic air pollution monitoring network measures seven atmospheric pollutants which includes TSP, $SO_2$, $NO_2$, CO, and $O_3$, etc. Vans equipped with air pollution measuring devices cover heavily polluted areas or areas in which stationary units have not yet been established. The acid rain monitoring network is in operation. The information from these stations is being relayed via tel-metry monitoring system(TMS) to the central data bank of MOE in order to assess and coordinate the efforts against air pollution.

3. **Major Groups:** Non-governmental parties participate in an advisory committee on air quality preservation. The Labelling Scheme of Fuel Economy for passenger cars using gasoline was adopted in 1992 to provide consumers with information on fuel efficiency and to encourage automobile manufacturers to produce cars with higher fuel efficiencies. This system was expanded in 1994 to cover jeeps and van-type vehicles using gasoline. Another policy to encourage automobile manufacturers to produce higher fuel efficiency cars is the Target Fuel Economy System, whereby the government designates fuel efficiency targets which the manufacturers should reach within a designated time. The public and business have actively participated in these programs.

4. **Finance:** Korea has made an Automobile Pollution Decrease Investigation Plan and will invest 8.2 billion US dollars on the plan from 1996 to 2000 to decrease automobile pollution.

5. **Regional/International Cooperation:** In order to study the effect of transboundary air pollution and possible abatement measures, Korea is to foster cooperation among the East Asian countries, and joined the Convention on Climate Change in December 1993 to solve the climate change problems. In accordance with the recommendation of the Convention, Korea has prepared a national report on the emission of green house gases, and has encouraged research into the possible measures to reduce the production and emission of such gases.

## STATISTICAL DATA/INDICATORS

| | 1980 | 1990 | Latest 1993 | |
|---|---|---|---|---|
| $CO_2$ emissions (eq. million tons) | 108.70 | 212.50 | 269.66 | |
| $SO_x$ " | 1.226 | 1.611 | 1.571 | |
| $NO_x$ " | 0.755 | 0.926 | 1.191 | |
| $CH_4$ " | 1.296 | 1.554 | 1.637 | |
| Consumption of ozone depleting substances (Tons) | 9,420 | 16,727 | 11,202 | |
| Expenditure on air pollution abatement in US$ equivalents (million) | NA | NA | NA | |
| Other data | | | | |

**AGENDA 21 CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Rapid economic development and urbanization since the 1970s has severely altered land use patterns. In order to effectively deal with these changes, a comprehensive and integrated land development plan is necessary. The Third Comprehensive National Development plan is being implemented along with the New Five Year Economic Development Plan. The Comprehensive National Development Plan focuses on harmonizing the dual needs of land development and preservation to facilitate sustainable development. To implement long term plans, such as the Comprehensive National Development Plan, various medium-term land use plans, such as the National Land Use Plan, the Capital Area Plan, and the Urban Area Plan were adopted. The National Land Use Plan was formulated in 1976 to balance national land development with environmental concerns. The proper location of population and industry in the capital area is managed according to the Capital Area Plan. Some cities are designated as urban development areas to promote healthy urbanization. Other policies concerning land management issues, such as the Land Transaction Regulation System, the Idle Land Regulation system, and the upper limit of the Land Owning Regulation system are under implementation. To promote harmonization of land development with environment preservation the government of Korea will focus on the conservation of land, rational use and effective management of land for environment preservation and an establishment of a comprehensive land information system.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Ministry of Construction and Transportation is responsible for nationwide land management plans and policies. Local authorities are the main body directly involved with the land management of their own districts.

2. **Capacity-Building/Technology Issues:**

- In order to ensure integrated land information, the government is establishing the Real Estate Transaction Network.
- The government supports the efficient use of land through the Real Estate Trust System.
- In order to systematically analyze and manage environmental technology and policy information, a Comprehensive Environmental Information Network will be established.
- The Land Transaction Regulation System, the Idle Land Regulation System, and the Upper Limit of the Land Owning Regulation System are under implementation.

3. **Major Groups:** Experts participate in related advisory committees. Residents' right to attend a hearing process is secured.

4. **Finance:** See chapter 7

5. **Regional/International Cooperation:**

## AGENDA 21 CHAPTER 11: COMBATING DEFORESTATION

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Forests make up 65% of total land mass and are the most important natural resource in Korea. Since the early twentieth century, more than half of the forest resources were devastated through the Japanese colonization, Korean war, and other social turbulence. The denuded forest lands have been rehabilitated from successful forest greening movements and erosion control projects actively implemented since 1960s. As of 1995, forest area is about 6.5 million ha. The total growing stock reaches up to 296 million $m^3$ and the average stock per ha is about 48 $m^3$, which is five times greater than in 1960.

- While reforestation has been successfully accomplished, harvestable forest resources are extremely limited because about 90% of forests are under 30 years old with little economic value. The value of public benefits of forests including watershed function and recreation was estimated to account for 10% of GNP as of 1995. The domestic timber supply was 0.73 million $m^3$ which accounted for just 11% of the total demand in 1995. About 0.08% of forest land is harvested through small scale clear cutting or selective cutting of less than 5 ha a year, and it is replanted immediately thereafter.

- The third Forest Resources Enhancement Plan(1988-1997) is currently in progress. The major goal of forestry policy pursued by the Korean Forestry Administration is to enhance forest productivity and put emphasis on forestry operations such as silvicultural practices and thinning. Also, infrastructure for forest management has been expanded through construction of forest roads, training of professional technicians, and procurement of mechanical equipments. To prevent forest degradation, which is mainly caused by forest fire, insects, and diseases, damage control measures have been strengthened in Korea.

- To implement ecologically sound forest management, the Forest law was substantially revised to elaborate directions toward sustainable forest management in Korea. As an active member of the Montreal Process, Korea contributed to the development of criteria and indicators for the conservation and sustainable management of temperate and boreal forests around the world.

- Seventy one percent of forest land is privately owned by over two million people. The active management of small scale private forests is, therefore, critical in achieving sustainable forest management. To promote safe forest management, projects for cooperative management of private forests and multiple purpose management related with short-term income sources, including mushrooms, mountain vegetables, beekeeping, and wild flowers for improving living environments in rural communities are under progress across the country.

- The various activities promoting the general public's awareness of forest cultures are under progress to ignite the traditional thoughts on nature of recognizing the harmony and balance among heaven, earth, and human beings and to refurbish nature-oriented environmental ethics.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Forestry Administration under the Ministry of Agriculture and Forestry is the primary organization responsible for the whole forestry sector, including policy formulation and coordination in Korea. Under the direction of Forestry Administration, five National Forest Offices and 30 Stations control the national forest management and provide extension services to local levels. In addition, there are two national research institutes, Forestry Research Institute and Forest Genetics Research Institute. The responsibility for managing public and private forests belongs to local governments. To represent forest owners' interests, Forest Cooperative Associations are established, including central, provincial, municipal, and county associations. They undertake various forest management projects under concessions. Also, various interest groups participate in policy formulation and decision making process. In enacting and implementing forest policies, the Forest Law is applied.

2. **Capacity-Building/Technology Issues:** After the Rio Summit meeting in 1992, forest policies have focused on sustainable forest management and conservation with regards to ecological functions of forests. In order to achieve this objective, institutional systems have been strengthened, including new divisions for conservation of forest environment at the Forestry Administration and Forestry Research Institute. Also, organizations of national forests have expanded and Forest Law was revised to include criteria and indicators of sustainable forest management.

3. **Major Groups:** To achieve sustainable forest management, major groups, including Model Forest Managers, local community, environmental organizations, and educational societies play important roles.

4. **Finance:** Due to heightened forest awareness of environments, governmental funding for the forestry sector has increased.

5. **Regional/International Cooperation:** Korea supports the Forest Principles adopted at UNCED and tries to establish and implement a national action plan. Korea has actively participated in the Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests(Montreal Process) and in other international cooperations in the forestry sector. Korea ratified the recently revised International Tropical Timber Agreement and actively participates in regional joint programs and projects for environmental protection in the North-East Asian region.

**STATISTICAL DATA/INDICATORS**

| | 1985 | 1990 | Latest 1995 |
|---|---|---|---|
| Forest Area ($Km^2$) | 65,311 | 64,760 | 64,519 |
| Roundwood production (solid volume of roundwood without bark in mill $m^3$) | 0.71 | 0.92 | 0.73 |
| Deforestation rate ($Km^2$/annum) | - | - | - |
| Reforestation rate ($Km^2$/annum) | 52 | 37 | 25 |
| Other data | | | |
| Ratio of forest products from GNP (%) | 0.9 | 0.4 | 0.2 |
| Export of forest products (million US$) | 264 | 610 | 505 |
| Import of forest products (million US$) | 629 | 1,721 | 2,779 |

## AGENDA 21 CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

**NATIONAL PRIORITY:**

**STATUS REPORT:**

**International Convention to Combat Desertification in Countries Experiencing Drought and/or Desertification Particularly in Africa**

Each party shall file reports on implementation with the Conference of Parties, as often and in the form to be determined. Parties are to report on development of national action programmes. The Conference shall assist affected developing countries to make reports.

- Convention: signed in 1994; ratified in 19__.

- The latest report to the Secretariat of the Convention was prepared in 19--.

**Additional comments relevant to this chapter**

- Desertification is one of the most serious regional problems, especially in Africa and Asia. Desertification not only diminishes the environmental quality of affected countries, but also indirectly affects neighbouring countries. Furthermore, land degradation resulting from erosion caused by ecosystem disturbances such as climate fluctuations, deforestation, and agricultural/livestock exploitation raise serious environmental problems. By limiting land use and reducing soil productivity, desertification creates a significant financial burden on soil protection and rehabilitation projects. Specifically, in the past several decades of socioeconomic turbulence in Korea (i.e. the Korean War), deforestation has resulted in landslides, droughts, and floods. Thus, the government of Korea has been actively engaged in rehabilitation and reforestation efforts since the 1960s. Efforts have been focused on degraded mountain regions. Past efforts have been successful in reversing and preventing further soil degradation.

- Korea will continue to contribute to global efforts by rehabilitating degraded land and ecosystem conservation and providing international cooperation for combating desertification. To establish and implement systematic measures necessary for land rehabilitation, a national survey on small dispersed areas of denuded and degradable sites will be carried out and the resulting data will be utilized. Moreover, the government will positively consider the ratification of the UN Convention on Combating Desertification and actively participate in international conventions to combat desertification. Korea has accumulated valuable experiences and technology from past reforestation and erosion control projects in denuded lands. Therefore, Korea's vast experience and modern technology could be used to help solve desertification problems in seriously affected countries. The government will also strengthen Northeast Asian regional cooperation through bilateral cooperation and multilateral joint projects.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** see chapter 11

2. **Capacity-Building/Technology Issues:**

3. **Major Groups:**

4. **Finance:**

5. **Regional/International Cooperation:**

- Korea has strengthened cooperation with various countries in forestry development and management through such efforts as the signing of the Forestry Techniques Agreement with Germany and the Forestry Cooperation Agreement with Indonesia. Recently, Korea has broadened international cooperation with neighbouring countries for the exchange of forestry experts and joint research programs. The government has also increased forestry cooperation efforts with Russia through the signing of the Memorandum of Understanding on forestry cooperation in 1991.

- Since the 1980s, the government has invited many government officials from developing countries in southeast Asia and other regions working in forest development and management areas. The government has provided educational and training programs for these officials on reforestation, erosion control, forest protection and forest management. Through these opportunities, Korea was able to accumulate new information and advanced technologies. In addition, the government has strengthened cooperation with international organizations such as the FAO and ITTO.

- The UNCED's "Forest Principles" points out that an exchange of knowledge and information is critical in solving global deforestation problems. To this end, Korea will actively increase bilateral and international cooperation through participating in various activities sponsored by international organizations that aim to implement the Forest Principles and other various international conventions on forestry.

**STATISTICAL DATA/INDICATORS**

| | 1980 | 1990 | Latest 199_ | |
|---|---|---|---|---|
| Land affected by desertification ($Km^2$) | | | | |
| Other data | | | | |

## AGENDA 21 CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Korea is a typical mountainous country where forests account for 65%of total land mass. Forest ecosystem is vulnerable to degradation due to soil conditions and heavy rains that occur during summer. Since the early 20th century, forests have been devastated through excessive and illegal cuttings. Recently, the public demand for various benefits provided by forests, including watershed management and recreational sites has increased, hence, pressuring the government to implement sustainable mountain development.

- In Korea, ecosystem management for sustainable mountain development has focused on three major areas; 1) an establishment of geographic information systems on forest environments and of ecological management techniques as a basis for forest ecosystem management, 2) the prevention and control of forest fire, insects and disease, and environmental stress which degrads the integrity of forest ecosystems, and 3) the promotion of various environmental functions inherent in forests.

- Along with the 10-year periodic forest inventory, site survey across the country is under progress since 1995. Geographic map is being computerized into digital data bases. Research on classification of forests based on ecological characteristics and development of suitable management planning and practices are ongoing.
To keep the forest ecosystem from forest fires, insects and disease, and other environmental stress including acid rain which recently emerged as damaging factor, and to maintain the productivity and health of the forest ecosystem, various projects and programmes have been initiated to enlarge the manpower for fire detection and prevention, modernize fire equipment, operate the monitoring and early warning system for outbreaks of forest insects and diseases, improve the biological control measures including application of natural enemies, establish acid rain monitoring systems, and to ameliorate forest soil quality.

- To improve watershed capacities, forest management in the areas surrounding major rivers is intensified and erosion control dams are continuously constructed. Valley erosion controls are to be also tightened. The forest areas for recreation activities are increasing to meet the rapidly growing demand for recreational sites and to improve public health by adding forest bathing sites.

- Currently the integrated rural development projects initiated by the Korean Forestry Administration since 1995 are under progress with major objectives of improving living conditions, promoting eco-tourism, and raising the income level by developing new income sources, including forest byproducts in forest communities. These projects are expected to achieve balanced and harmonized national land use and promote sustainable development in secluded mountainous areas in Korea.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** same as chapter 11, combating deforestation

2. **Capacity-Building/Technology Issues:**

3. **Major Groups**

4. **Finance:**

5. **Regional/International Cooperation:**

**STATISTICAL DATA/INDICATORS**

## AGENDA 21 CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- As the main industry in rural society, agriculture provides people with a basic livelihood. Agriculture also maintains and strengthens the regional economy, protects the environment, and preserves cultural traditions.

- In the midst of rapid economic development and urbanization, farming activities have rapidly declined. Urban-rural disparities are widening and food self-sufficiency has dropped. Furthermore, efforts and research are urgently needed to cope with the effects of the Uruguay Round on Korean agriculture.

- The Presidential Commission on Rural Reconstruction(PCRR), which is represented by the heads of farmers' organizations and scholars, was formed in February 1994. From the recommendations of the PCRR, the Rural Development Measures and Agricultural Policy Reform Plan was disclosed on June 14, 1994. This plan was designed to enhance the competitiveness of Korean agriculture in international markets by promoting efficient use of production resources, developing environmentally friendly farming practices, integrating sustainable development measures in all areas of agriculture, and raising the agricultural sectors' self-help capacity.

- The government is supporting the following program areas:

  (a) Efficient use of production resources;
  (b) Development of agricultural technology and the sustainable use of resources;
  (c) Elaboration of production means to promote sustainable development;
  (d) Promotion of environmentally friendly agricultural policy and encouragement of public participation.

**Cross-Sectoral Issues**

**1. Decision-Making Structure:** The Ministry of Agriculture and Forestry is responsible for policies on sustainable agriculture and rural development.

**2. Capacity-Building/Technology Issues:**

- Fostering vertical integration of farm production, processing, and marketing;
- Establishing a comprehensive agricultural information network to promote the agriculture-related industry's rational production, marketing and management decisions;
- Ensuring direct and indirect participation of farmers and farmers' organizations in the agricultural policy, production, processing, and marketing systems.

**3. Major Groups:** Farmers, farmers' organizations, and experts participate in advisory committees and commissions. For example, the Presidential Commission on Rural Reconstruction(PCRR), which is represented by the heads of farmers' organizations and scholars, was formed in 1994. On the basis of recommendation from PCRR, the Rural Development Measures and Agricultural Policy Reform Plan was announced. NGOs are playing a critical role in the voluntary participation of farmers in environmentally friendly agricultural production practices.

**4. Finance:**

**5. Regional/International Cooperation:**

**STATISTICAL DATA/INDICATORS**

| | 1985 | 1990 | Latest 1995 |
|---|---|---|---|
| Agricultural land ($Km^2$) | 21,440 | 21,090 | 19,850 |
| Agricultural land as % of total land area | 21.6 % | 21.2 % | 20.0 % |
| Agricultural land per capita($m^2$) | 529 | 492 | 445 |
| | **1990** | **1992/93** | **Latest 1995** |
| Consumption of fertilizers per $Km^2$ of agricultural land as of 1990 | 45,800 kg | 42,400 kg | 43,400 kg |
| Other data | | | |

## AGENDA 21 CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

**NATIONAL PRIORITY:**

**STATUS REPORT:**

**Convention on Biological Diversity**

Parties are to develop national strategies, plans and programmes for sustainable use and conservation of biodiversity and integrate them into general development plans.
Parties shall identify, monitor and maintain data on components of biodiversity.
Parties shall introduce appropriate procedures requiring EIAs for projects likely to have significant adverse effects on biological diversity.
Parties shall submit reports on measures which it has taken for the implementation of the Convention, at intervals to be determined.

- Convention signed in 1992; ratified in 1994
- Latest report submitted in 19--.

**Convention on International Trade in Endangered Species of Wild Fauna and Flora**

Parties to take appropriate measures to enforce regulatory provisions and prohibit trade in specimens in violation thereof. Convention also governs treatment of animals in shipment.
Each party to prepare periodic reports on its implementation of the convention and to prepare: (a) an annual report listing export permits issued and species involved, and (b) a biennial report on legislative, regulatory and administrative measures taken.

- Convention signed in 1993.
- Latest report submitted in 1995.

**Additional comments relevant to this chapter:**

- Biodiversity conservation policies in Korea are being undertaken under the Natural Environment Conservation Act and several other related laws such as the Natural Park Act and the Cultural Properties Protection Act, etc.
- Various kinds of protected areas such as natural ecosystem protection areas, national parks, bird and mammal protection areas, and natural forest protection areas function as *in-situ* biodiversity conservation areas. They cover around 7 per cent of the total land area.
- In addition, Korea has adopted several species protection measures such as creating "Natural Monument", "Special Wild Fauna and Flora", and "Protected Wild Birds and Mammals" classifications to protect endangered or declining wild species.
- Despite these activities, biodiversity in Korea has diminished continuously as a result of rapid economic development. Over 180 species, including tigers and leopards, have disappeared or are endangered.
- While reinforcing existing policies, Korea will take additional measures to conserve biodiversity. The National Strategy for Biodiversity Conservation will be concluded by the end of 1996. New ecosystem protection approaches are to be applied, in which harmonization between the land owner's right and the efficient management of protected areas will be pursued with great emphasis. The second national survey on the natural environment will be undertaken from 1997 to 2001. The identification of valuable and vulnerable ecosystems and species is one of the main objectives of the national survey.
- As a member of the global community, Korea is strongly involved in the international efforts to conserve biodiversity. Korea has acceded to the Convention on Biological Diversity and CITES and is preparing to join the Ramsar Convention. Korea has also taken active roles in the Man and Biosphere(MAB) Program of UNESCO and in other international and regional environmental cooperation programs.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Ministry of Environment is responsible for biodiversity conservation in Korea. It shares the responsibility with the Ministry of Agriculture and Forestry(Forestry Administration), the Ministry of Science and Technology, and the Ministry of Health and Welfare. In the national legislation, the Natural Environment Conservation Act provides the basic and comprehensive legal basis for biodiversity conservation activities. This act is presently under revision. The Natural Park Act, the Cultural Properties Protection Act, the Forestry Act, and the Law Concerning Wildlife Protection and Hunting are also part of conservation measures. There is a national plan called the Master Plan for Natural Environmental Preservation for nature conservation, including the biodiversity conservation and the National Strategy for Biodiversity Conservation which will be adopted in early 1997.

2. **Capacity-Building/Technology Issues:** There is no governmental unit or research center that operates only for biodiversity related activities. Instead, most of the governmental agencies and research centers are closely related to biodiversity. For this purpose, the Nature Conservation Bureau in the Ministry of Environment is taking a central role. The Bureau conducted a survey on the conservation of biodiversity in Korea. They conducted a nationwide study entitled "Biodiversity Korea 2000" in 1994.

3. **Major Groups:** The central government, local governments, experts, NGOs, and land owners of forest areas and protected areas share the responsibility of biodiversity conservation. However, the government's role is still the most important.

4. **Finance:** Financial resources to cover various biodiversity programs have been limited. Although the national budget for nature conservation in 1994 was estimated at 585 billion Korean won(or 730 Million US dollars), finance for biodiversity conservation has not yet been estimated systematically. As the emphasis on these matters gradually grows, financial resources will be expanded.

5. **Regional/International Cooperation:** Korea joined CITES in 1993 and the Convention on Biological Diversity in 1994, and is preparing to join the Ramsar Convention. Korea has also taken active roles in regional cooperation programs such as the East Asia Biosphere Reserve Network(EABRN) under the Man and Biosphere(MAB) Program of UNESCO

**STATISTICAL DATA/INDICATORS**

| | 1992 | Latest 1995 |
|---|---|---|
| Protected area as % of total land area | - | 7% |
| + | **1989** | **Latest 1989** |
| Number of threatened species | 175 | 175 |
| Other data | | |

## AGENDA 21 CHAPTER 16: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Biotechnology can be environmentally friendly and an important means to achieve sustainable development. Since Korea is not well endowed with natural resources and has a small land area, the technology for the improvement of productivity of agricultural and dairy products using animal and plant resources is necessary to enhance national competitiveness in the agricultural sector and to secure the food supply. By the application of biotechnology, research on medical and health services can be effectively carried out. For this reason, the government and industrial, academic, and research organizations need to cooperate with one another to develop new biomedicine and remedies for incurable diseases. However, appropriate measures should be taken to safely manage and control biotechnology.

- In Korea, to promote technological development for the conservation of the environment, to improve public health, and to increase food productivity, the government will allocate more financial resources to projects in these areas and strive to activate research and development in the private sector. For the protection and conservation of the environment, the government will formulate programs to develop bio-materials which can reduce the negative effects of chemicals on the ecosystem and on human health and encourage the participation of and investment by private companies.

- For the safety of biotechnology and the development of mechanisms for cooperation, a national framework of comprehensive laws and regulations will be made and the National Council for Biosafety Strategy Management of Biotechnology will be organized. It is necessary to establish a system supporting research and product development related to biotechnology on the national, regional, and international levels, and a system for safety assessment and risk management. Hence, the establishment of the Biotechnology Training Center is under consideration to cultivate biotechnology specialists in industrial, academic, and research organizations and to stimulate economic and technological cooperation with developing countries.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Ministry of Science and Technology is the body most directly involved with environmentally sound management of biotechnology, in cooperation with other related ministries.

2. **Capacity-Building/Technology Issues:** To build the scientific and technological base of biotechnology and to accelerate the transfer of biotechnology research results to commercial applications, the government is trying to strengthen the nation's R&D infrastructure and promote the much needed human resources. For this purpose, the Korean government initiated an ambitious, 14-year national R&D program called "Biotech 2000" in 1994.

3. **Major Groups:** Biotechnological research is to be supported by seven different government ministries and it is suggested that industries, academia, and research organizations participate in the national policy process. Important national projects and programs, such as "Biotech 2000", have been approved by the National Policy Council for Biotechnological Research.

4. **Finance:** To develop biotechnology, the government plans to spend, from its 1994-1997 R&D budget, a total of 625 million US dollars. Such effort to actively invest in biotechnology R&D is expected to encourage and facilitate private investment in this field.

5. **Regional/International Cooperation:** In Korea, international cooperation in biotechnology R&D has been built by universities, institutes and industries with counterparts all over the world. The U.S., Japan and Western European countries have been major partners. Recently, developing countries, including China, Malaysia, Thailand, Brazil, and eastern European countries, have joined the list. To nurture biotechnology experts in industries, academia, and research organizations, and to promote technological cooperation with developing countries, the establishment of a Biotechnology Training Center is being planned.

**STATISTICAL DATA/INDICATORS**

**AGENDA 21 CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

**The UN Convention on the Law of the Sea**
Signed in 1993; Ratified in 1996

- Since the 1980s, there has been a decline in the deep-sea fishing industry and a rise in production of marine aquaculture. As the public demand for high quality protein sources increases, this trend is expected to continue. However, the disruption of the coastal fishing industry by land reclamation projects, industrial water effluents, waste disposal, and oil spills has had significant effects on the sustainable development of coastal fisheries. The ecosystem surrounding Korea is very vulnerable to the coastal activities of adjacent nations, such as Russia, China, North Korea, and Japan. Under such circumstances, regional and international cooperation is required to effectively protect and preserve the marine ecosystem and resources in the sea.

- In the last 30 years, the development of industrial complexes and many new cities in the Korean coastal area has made the disposal of industrial water effluents and sewage from urban areas an urgent issue. For the conservation and sustainable use of living marine resources, Korean waters have become the focus for the prevention of marine pollution from land-based activities and sea-based activities.

- The Korean government is strengthening regional and international cooperation for the protection of the marine environment and living marine resources. The North-East Pacific region has abundant biological and mineral resources. It accounts for the production of over 1/3 of the global annual fish-catch, and its seaways are used for over 1/3 of global transportation activities. The region is one of the most rapidly developing areas in the world. The Korean government places a high priority on regional and international cooperation and actively participates in cooperative international marine activities.

See attached tables on following pages.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** To effectively implement oceans and marine policies, the government established a new government organization, the Ministry of Maritime Affairs and Fishery in August 1996. This ministry enforces policies designed to protect ocean and marine resources and is responsible for policies on marine environmental protection and sustainable use of marine living resources.

2. **Capacity-Building/Technology Issues:** The government conducts a long-term research to monitor and assess changes in the marine ecosystem caused by marine pollution. Based on the results of the research, ecosystem distribution status is reported and an environmental sensitivity map and a map of the wetlands is made.

3. **Major Groups:** The central government, local governments, fisheries cooperatives, and research institutes share the responsibility of protecting ocean and fisheries. However, the role of the government is still most important.

4. **Finance:**

5. **Regional/International Cooperation:** Korea is actively participating in international programs such as the World Ocean Circulation Experiment, the Study of Climate Variability and Predictability, the Joint Global Ocean Flux Study, and the Global Ocean Observing System under the auspices of the IOC and the WMO. Korea has bilateral fishing agreements with 14 nations and is a contracting party to 8 international fishing organizations. The government of Korea is promoting regional and international cooperative research efforts of the International Oceanographic Committee in order to exchange relevant information and data.

**STATISTICAL DATA/INDICATORS**

| | 1980 | 1990 | Latest 1995 | |
|---|---|---|---|---|
| Catches of marine species (metric tons) | 2.41 million | 3.274 million | 3.348 million | |
| Population in coastal areas | NA | NA | 15.368 million(1992) | |
| Population served by waste water treatment (% of country's total population) | 8 % | 33 % | 45 % | |
| Discharges of oil into coastal waters (metric tons) | 396 | 2,421 | 13,604 | |
| Releases of phosphate into coastal waters (metric tons) | NA | NA | NA | |
| Releases of nitrate into coastal waters (metric tons) | NA | NA | NA | |
| Other data | | | | |

**Chapter 17 (Oceans) Continued:**

**Check the boxes in the column below left:**
**For level of importance use:**
*** = very important
** = important
* = not important
N = not relevant

**Check the boxes in the column below right:**
**For level of implementation use:**
*** = fully covered
** = well covered - gaps being addressed
* = poorly covered
O = not covered
N = not relevant

TABLE I. THE FOLLOWING ACTIVITIES HAVE BEEN CONSIDERED BY THE APPROPRIATE COORDINATING MECHANISM FOR INTEGRATED MANAGEMENT AND SUSTAINABLE DEVELOPMENT OF COASTAL AND MARINE AREAS AND THEIR RESOURCES.

| LEVEL OF IMPORTANCE | ACTIVITY AS DESCRIBED IN AGENDA 21 | LEVEL OF IMPLEMENTATION |
|---|---|---|
| ● ● ● | a. Preparation and implementation of land and water use and siting policies. | ● ● |
| ● ● ● | b. Implementation of integrated coastal and marine management and sustainable development plans and programmes at appropriate levels. | ● ● |
| ● ● | c. Preparation of coastal profiles identifying critical areas including eroded zones, physical processes, development patterns, user conflicts and specific priorities for management. | ● |
| ● ● ● | d. Prior environmental impact assessment, systematic observation and follow-up of major projects, including systematic incorporation of results in decision-making. | ● ● |
| ● ● | e. Contingency plans for human induced and natural disasters. | ● ● |
| ● ● | f. Improvement of coastal human settlements, especially in housing, drinking water and treatment and disposal of sewage, solid wastes and industrial effluents. | ● ● |
| ● ● ● | g. Periodic assessment of the impacts of external factors and phenomena to ensure that the objectives of integrated management and sustainable development of coastal areas and marine environment are met. | ● ● |
| ● ● ● | h. Conservation and restoration of altered critical habitats. | ● |
| ● ● | I. Integration of sectoral programmes on sustainable development for settlements, agriculture, tourism, fishing, ports and industries affecting the coastal areas. | ● ● |
| ● ● | J. Infrastructure adaptation and alternative employment. | ● ● |
| ● ● | K. Human resource development and training. | ● ● ● |
| ● ● ● | L. Public education, awareness and information programmes. | ● ● |
| ● ● ● | M. Promoting environmentally sound technology and sustainable practices. | ● |
| | N. Development and simultaneous implementation of environmental quality criteria. | |

TABLE II. TECHNOLOGY (MARINE ENVIRONMENT)

| LEVEL OF IMPORTANCE | ACTIVITY AS DESCRIBED IN AGENDA 21 | LEVEL OF IMPLEMENTATION |
|---|---|---|
| ● ● ● | A. Apply preventive, precautionary and anticipatory approaches so as to avoid degradation of the marine environment, as well as to reduce the risk of long-term or irreversible adverse effects upon it. | ● |
| ● ● ● | B. Ensure prior assessment of activities that may have significant adverse impacts upon the marine environment. | ● ● |
| ● ● ● | C. Integrate protection of the marine environment into relevant general environmental, social and economic development policies. | ● ● |
| ● ● ● | D. Develop economic incentives, where appropriate, to apply clean technologies and other means consistent with the internalization of environmental costs, such as the polluter pays principle, so as to avoid degradation of the marine environment. | ● ● |
| ● ● | E. Improve the living standards of coastal populations, particularly in developing countries, so as to contribute to reducing the degradation of the coastal and marine environment. | ● |
| ● ● ● | F. Effective monitoring and surveillance within the exclusive economic zone (EEZ) of fish harvesting and transportation of toxic and other hazardous materials. | ● ● |

**TABLE III. SEWAGE RELATED ISSUES**

| LEVEL OF IMPORTANCE | ACTIVITY AS DESCRIBED IN AGENDA 21 | LEVEL OF IMPLEMENTATION |
|---|---|---|
| ● ● | A. Sewage related problems are considered when formulating or reviewing coastal development plans, including human development plans. | ● ● |
| ● ● ● | B. Sewage treatment facilities are built in accordance with national policies. | ● ● ● |
| ● ● | C. Coastal outfalls are located so as to maintain acceptable level of environmental quality and to avoid exposing shell fisheries, water intakes and bathing areas to pathogens. | ● |
| ● ● ● | D. The government promotes primary treatment of municipal sewage discharged to rivers, estuaries and the sea, or other solutions appropriate to specific sites. | ● ● ● |
| ● ● | E. The government supports the establishment and improvement of local, national, subregional and regional, as necessary, regulatory and monitoring programmes to control effluent discharge. Minimum sewage effluent guidelines and water quality criteria are in use. | ● ● ● |

**TABLE IV. OTHER SOURCES OF MARINE POLLUTION, THE GOVERNMENT HAS:**

| LEVEL OF IMPORTANCE | ACTIVITY AS DESCRIBED IN AGENDA 21 | LEVEL OF IMPLEMENTATION |
|---|---|---|
| ● ● ● | A. Established or improved upon, as necessary, regulatory and monitoring programmes to control emissions, including recycling technologies. | ● ● |
| ● ● | B. Promoted risk and environmental impact assessments to help ensure an acceptable level of environmental quality.n | ● |
| ● ● ● | C. Promoted assessment and cooperation at the regional level, where appropriate, with respect to the input of point source pollutants from the marine environment. | ● ● |
| ● ● ● | D. Taken steps to eliminate emissions or discharges of organohalogen compounds from the marine environment. | ● ● |
| ● ● ● | E. Taken steps to eliminate/reduce emissions or discharges or other synthetic organic compounds from the marine environment. | ● ● ● |
| ● ● ● | F. Promoted controls over anthropogenic inputs of nitrogen and phosphorous that enter coastal waters where such problems as euthrophication threaten the marine environment or its resources. | ● ● |
| ● ● ● | G. Taken steps to develop and implement environmentally sound land-use techniques and practices to reduce run-off to water courses and estuaries which would cause pollution or degradation of the marine environment. | ● ● |
| ● ● | H. Promoted the use of environmentally less harmful pesticides and fertilizers and alternative methods for pest control, and considered the prohibition of those found to be environmentally unsound. | ● ● |
| ● ● | I. Adopted new initiatives at national, subregional and regional levels for controlling the input of non-point source pollutants which require broad changes in sewage and waste management, agricultural practices, mining, construction and transportation. | ● |
| ● ● | J. Taken steps to control and prevent coastal erosion and silution due to anthropogenic factors related to, inter alia, land-use and construction techniques and practices. | ● |

**TABLE V. ADDRESSING CRITICAL UNCERTAINTIES FOR THE MANAGEMENT OF THE MARINE ENVIRONMENT AND CLIMATE CHANGE. IN ORDER TO IMPLEMENT THIS PROGRAMME AREA THE GOVERNMENT IS CARRYING OUT THE FOLLOWING ACTIVITIES:**

| LEVEL OF IMPORTANCE | ACTIVITY AS DESCRIBED IN AGENDA 21 | LEVEL OF IMPLEMENTATION |
|---|---|---|
| ● ● ● | A. Coordinating national and regional observation programmes for coastal and near-shore phenomena related to climate change and for research parameters essential for marine and coastal management in all regions. | ● ● |
| ● ● | B. Providing improved forecasts of marine conditions for the safety of inhabitants of coastal areas and for the efficiency of marine operations. | ● |
| ● ● ● | C. Adopting special measures to cope with and adapt to potential climate change and sea-level rise. | ● |
| ● ● | D. Participating in coastal vulnerability assessment, modelling and response strategies particularly for priority areas, such as small islands and low-lying and critical coastal areas. | ● |
| ● ● ● | E. Identifying ongoing and planned programmes on systematic observation of the marine environment, with a view to integrating activities and establishing priorities to address critical uncertainties for oceans and all seas. | ● ● ● |
| ● ● ● | F. Research to determine the marine biological effects of increased levels of ultraviolet rays due to the depletion of the stratospheric ozone layer. | ● |
| ● ● ● | G. Carrying out analysis, assessments and systematic observation of the role of oceans as a carbon sink. | ● ● |

KOREA

TABLE VI. RATING OF ACTIVITIES IN THE AIR AND MARITIME TRANSPORT SECTORS IN THE SMALL ISLANDS DEVELOPING STATES (SIDS)

| AIR TRANSPORT | RATING | MARITIME TRANSPORT | RATING |
|---|---|---|---|
| 1. Frequency (external flights) | | 1. Frequency (external shipping) | |
| 2. Frequency (in-country flights) | | 2. Frequency (in-country shipping) | |
| 3. Cooperation at regional level in air transport and civil aviation | | 3. Cooperation at regional level in shipping | |
| 4. Cooperation at international level | | 4. Cooperation at international level | |
| 5. Economic viability of national air line | | 5. Economic viability of national shipping line(s) | |
| 6. Economic viability of regional air line | | 6. Economic viability of regional shipping line (s) | |
| 7. national level training in skills for air transport sector | | 7. National level training in skills for maritime transport sector | |
| 8. Access to training in skills for air transport sector within the region | | 8. Regional level training in skills for maritime transport sector | |
| 9. Access to international training for air transport sector | | 9. Access to international training for maritime transport sector | |
| 10. Supportive of ICAO | | | |

**AGENDA 21 CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Freshwater is essential to the survival of living species and plants. Although the supply of water seems indefinite, freshwater is limited. Of the total supply of annual water resources in Korea, which is estimated to be 126.7 billion tons, about 54.8 billion tons are lost and about 42 billion tons are discharged or lost during floods. Because Korea has limited water resources, it is imperative that Korea secure the required amount of water resources to sustain its future economic development. Taking into account the deteriorating quality of water resources from rapid industrialization and urbanization, Korea is formulating and implementing appropriate policies to secure high quality water resources. Comprehensive water resource development and establishment of an efficient management system is one measure to improve water quality.

- To effectively manage water resources and secure the necessary water supply, the government has constructed many multi-purpose dams. About 34.8% of the 29.9 billion tons of annual water consumed is supplied from these dams. 21% of total water consumed is used for domestic purposes, 50% for agricultural purposes, 8% for industrial purposes, and 21% for nature preservation. Of the total population of 45.5 million people, about 37.35 million, or 82% of the total population are beneficiaries of the public water supply system. As of 1994, daily per capita water consumption has been about 408 liters.

- Since Korea is heavily dependent on its surface water resources, the government will place a high priority on the recovery and improvement of water quality of Korea's surface water resources. To improve the quality of surface water resources, the government is strengthening standards for the permitted level of emission of industrial water effluents and the discharge of effluents by public waste disposal facilities. The government has induced reduction of pollutant emissions by public waste disposal facilities and is introducing the effluent charge system which assess a discharge fee according to the quantity of actual discharge. Furthermore, inspection, development, and management of underground water resources is under way as well as the development of water conservation measures.

- For a comprehensive water resource development and establishment of an efficient management system, the Ministry of Environment and the Ministry of Construction and Transportation, setting the year 2011 as the target year, will establish a long-term water resource development plan and take a systematic approach to water resource development.

## Cross-Sectoral Issues

**1. Decision-Making Structure:** The Ministry of Environment and the Ministry of Construction and Transportation are responsible for nationwide policies on protection of the quality and supply of fresh water. Local authorities are responsible for creating environmental preservation policies in the area under jurisdiction and other activities delegated to them by MOE.

**2. Capacity-Building/Technology Issues:**

- Coordinate and encourage the exchange of information between water level monitoring stations and water quality assessment systems.
- Establish a comprehensive water information database to be available for use by all agencies dealing with water resources, such as underground water, surface water, temperature, water quality, and special traits of river basins.

**3. Major Groups:** Especially in this field, NGOs play an important role as an intermediary between the government and the people. NGOs promote understanding and voluntary participation of the people to preserve water quality, while conveying demands and concerns of the public to the government.

**4. Finance:**

**5. Regional/International Cooperation:**

## STATISTICAL DATA/INDICATORS

| | 1980 | 1990 | Latest 199- | |
|---|---|---|---|---|
| Fresh water availability (total domestic/external in million $m^3$) | | | | |
| Annual withdrawal of freshwater as % of available water | | | | |
| Other data | | | | |

**AGENDA 21 CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Many of the social and economic goals of today were met by the use of chemicals. For developing countries, lack of sufficient scientific information for the assessment of risks entailed by the use of chemicals and lack of resources for assessment of chemicals for which data are at hand pose serious problems. Chemical contamination with poisonous effect to human health, genetic structures, reproductive process, and the environment, has been continuing within some of the world's most important industrial areas. In this context, safe management of toxic chemicals is needed to ensure the improved quality of life for all humans.

- Korea recognizes the importance of safe management of toxic chemicals and is strengthening the integrated management system and chemical risk assessment procedures.

- In Korea, chemical substances are categorized into 'highly toxic substances', 'special chemical substances', 'dangerous substances', and 'highly toxic agricultural chemicals' according to the Toxic Chemical Substance Control Act, the Industrial Safety and Health Act, the Fire Service Act, and the Agricultural Chemical Control Act. They are based on the harmful effects on human health and environment, the safety of workers dealing with the substances, the physical and chemical properties of the substances, and the residual duration of the substances.

- Korea has adopted the following six program areas in order to achieve the environmentally sound management of chemicals: expansion and acceleration of chemical risks assessment; harmonization of classification and labelling of chemicals; information exchange on toxic chemical substances and related hazards; establishment of a risk reduction plan; strengthening domestic capacity and facilities for safe management of chemicals; and prevention of illegal traffic of toxic and dangerous products

- The Korean Customs Administration's role in controlling the illegal trade of toxic and dangerous products will be strengthened with a new intelligence cooperation system which clearly defines responsibilities and procedures. All governmental agencies with institutions such as the Customs Administration and the National Environmental Research Institute, will open new channels of communication and cooperation with international bodies, such as the UNEP and the International Registry of Potential Toxic Chemicals(IRPTC).

## Cross-Sectoral Issues

**1. Decision-Making Structure:** To safely manage toxic chemical substances, seven government organizations including the Ministry of Environment and the Ministry of Agriculture and Forest are cooperating to formulate and implement related policies. The Environmental Preservation Committee, chaired by the Prime Minister, discusses and coordinates major policies in this field. MOE plans to organize an 'Inter-ministerial Consultation Committee' in order to promote cooperation among ministries. The Sub-Advisory Committee, which includes NGOs, experts, and researchers is established under MOE for technical consultation.

**2. Capacity-Building/Technology Issues:** In order to meet the demand for safe management of chemical substances information and to promote international information exchange, MOE established a Chemical Substances Information Center in the National Institute for Environmental Research. The government has encouraged the expansion of testing abilities of toxicity testing research institutes to prepare Korea's accession to OECD. A GLP operation guideline has been made. In order to increase the reliability of safety assessment, an Environmental Toxicity Prediction Program has been introduced.

**3. Major Groups:** The Toxic Chemical Substance Management Association, which consists of experts, educates managers of toxic chemical substances and provides toxic chemical related information to producers and exporters of toxic chemicals.

**4. Finance:**

**5. Regional/International Cooperation:** Korea is strengthening cooperation with international bodies, such as the United Nations Environmental Program and the International Registry of Potentially Toxic Chemicals. In September 1996, the Ministry of Environment and OECD held a Workshop on Good Laboratory Practice and Compliance Monitoring in order to promote the understanding of GLP principle and international certification procedure.

## STATISTICAL DATA/INDICATORS

## AGENDA 21 CHAPTER 20: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS WASTES, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN HAZARDOUS WASTES

**NATIONAL PRIORITY:**

**STATUS REPORT:**

**The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal**

Parties shall cooperate to disseminate information on transboundary movement of hazardous wastes. Parties shall cooperate to promote environmentally sound low-waste technologies, to transfer technology and cooperate in developing codes of practice. Parties to assist developing countries.

Parties shall immediately inform affected parties as to accidents. Prior to the end of each calendar year, parties shall provide the following information on the preceding calendar year: (a) the authorities handling Convention matters; (b) information regarding the transboundary movement of hazardous wastes; (c) measures adopted to implement convention; (d) available statistics on human health and environmental effects of generation, transport and disposal of hazardous wastes; (e) information on agreements entered into; (f) information on accidents; (g) information on disposal options; and (h) information on development of waste-reduction technologies;

- Basel Convention: signed in 1994; ratified in 1994
- The latest information was provided to the Basel Convention Secretariat in 1995.

**Additional comments relevant to this chapter**

- Efficient and safe management of hazardous waste generation, storage, transport, collection, disposal, and reclamation are vital for human health, protection of the environment, resource management, and sustainable development. In order to harmonize both development and preservation of the environment, positive support and involvement of countries, industries, and international society are crucial. For this purpose, it is necessary to develop human resources, facilities, technology and funding.

- In February 1994, Korea became a party to the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal in order to prevent illegal transboundary movements of hazardous waste and to promote international cooperation. To implement the Basel Convention, the Korean government enacted the Law on the Control of Transboundary Movement of Harzardous Wastes and their Disposal on December 8, 1992 and enforced the Law on May 28, 1994. Under the Law, 118 specified wastes are being controlled on their movement with clear customs procedures

- The general goal in the management of hazardous wastes is to find safe methods of handling and managing hazardous waste to protect public health and the environment and to prevent and minimize adverse effects of hazardous waste. The development of clean manufacturing technology, expansion of the Polluter Pays Principle, proper management of hazardous waste treatment facilities, strict control of the discharge of hazardous wastes, and the affiliation with the Basel Convention are the keys to effectively controlling the generation, storage, treatment, recycling, and reuse, transport, recovery, and disposal of hazardous wastes. The objective is to minimize and manage the generation of waste so that it will not cause harm to human health and the environment.

- Becoming an OECD member country in 1996, Korea is to revise the existing control system on the basis of Basel Convention in order to implement the OECD control system.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Ministry of Environment is most directly involved with hazardous waste management. A permit on transboundary movement of harzardous wastes belongs to the Ministry of Trade, Industry and Energy.

2. **Capacity-Building/Technology Issues:**
   - Development of clean technology for reduction of waste generation.
   - Expansion of facilities for hazardous waste treatment.
   - Effective management and control of hazardous waste dischargers.

3. **Major Groups:** Related industries and environmental bodies(NGOs).

4. **Finance:** The money used to dispose illegally dumped wastes with unknown actors comes from the national budget.

5. **Regional/International Cooperation:**
   - Korea, as an OECD member country, will implement the OECD Control System on Transboundary Movement of Hazardous Wastes. Korea will harmonize the Basel Convention with OECD Control System by revising the existing system to implement the OECD system.
   - The management system and the treatment method of developed countries on transboundary movement control of hazardous waste will be grasped through active participation in international meetings and through strong support for the proposed construction of an information center by the Basel Convention Secretariat. Korea will also actively promote international cooperation through bilateral and multilateral agreements with countries that frequently import and export hazardous waste.

**STATISTICAL DATA/INDICATORS**

| | 1980 | 1990 | Latest 1995 | |
|---|---|---|---|---|
| Generation of hazardous waste (t) | - | 968,345 | 1,622,000 | |
| Import of hazardous wastes (t) | - | 44,000 | 15,000 | |
| Export of hazardous wastes (t) | - | - | 335,000 | |
| Area of land contaminated by hazardous waste ($km^2$) | - | - | - | |
| Expenditure on hazardous waste treatment (US$) | - | - | - | |
| Other data | | | | |

**AGENDA 21 CHAPTER 21: ENVIRONMENTALLY SOUND MANAGEMENT OF SOLID WASTES AND SEWAGE-RELATED ISSUES**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- Municipal and industrial wastes of 148,000 ton were generated each day in 1995. Until 1992, the amount of municipal wastes generated was greater than that of industrial wastes.

- The recent trend indicates that the amount of municipal wastes continues to decline, owing to the implementation of the Volume-Based Collection Fee System for waste minimization and the reduced use of coal briquettes. However, industrial waste generation is on the rise due to the expansion of manufacturing and service industries.

- On December 1993, the government established the Comprehensive Waste Management Plan, a long term plan(1993-2001), pursuant to the Waste Management Act. This plan includes the national waste management goals, waste minimization targets and instruments, the promotion of recycling, and the construction of incinerators, etc.

- Source reduction, reuse and recycling of wastes, and waste minimization technologies are important components of any waste management strategy. Recycling, resource recovery, and waste minimization technologies not only slow the consumption of natural resources and limit pollution loadings, but also significantly reduce the costs to the society of proper waste management.

## Cross-Sectoral Issues

1. **Decision-Making Structure:** The Ministry of Environment formulates nationwide policies for solid waste management. Local authorities are responsible for formulating and executing waste management policies which include reduction, collection, and disposal of wastes in the area under jurisdiction and other activities delegated by the MOE.

2. **Capacity-Building/Technology Issues:**
   - Reduction of waste generation from the sources;
   - Increase in recycling by expanding the market and facilities for recycled products;
   - Appropriate waste treatment with the expansion of incineration and sanitary landfill facilities.

3. **Major Groups:** Non-governmental parties participate in the advisory committee. NGOs play a critical role in raising public awareness in the field of waste reduction.

4. **Finance:**

5. **Regional/International Cooperation:**

## STATISTICAL DATA/INDICATORS

| | 1980 | 1990 | Latest 1995 | |
|---|---|---|---|---|
| Generation of industrial and municipal waste (t/day) | NA | 129,020 | 143,597 | |
| Waste disposed(Kg/capita day) (industrial and municipal waste) | NA | 2.9 | 3.1 | |
| Expenditure on waste collection and treatment (US$) (only municipal waste) | NA | 634.8 million | 1.468 billion | |
| Waste recycling rates (%) (only municipal waste) | NA | 4.6 % | 23.7 % | |
| Municipal waste disposal (Kg/capita day) | NA | 2.3 | 1.1 | |
| Waste reduction rates per unit of GDP (t/year) | NA | NA | NA | |
| Other data | | | | |

KOREA

## AGENDA 21 CHAPTER 22: SAFE AND ENVIRONMENTALLY SOUND MANAGEMENT OF RADIOACTIVE WASTES

NATIONAL PRIORITY:

STATUS REPORT:

- The release of radioactive materials into the atmosphere is harmful to human lives. Consequently, greater demand for nuclear energy due to the rise in living standards is resulting in a greater quantity of spent fuel to manage In order to ensure safe management of radioactive wastes and spent fuels which are temporarily stored at nuclear power plants, a permanent repository for low and intermediate level radioactive wastes (LILW) and an interim storage facility for spent fuels are required. To achieve efficient use of a currently planned low and intermediate level radioactive wastes (LILW) repository, advanced volume reduction and solidification technologies are being developed.

- Two program areas for safe and environmentally sound management of radioactive wastes are management of low and intermediate level waste, and management of spent fuel. For the former, radiological impact due to the disposal of LILW will be managed by taking due account of the ICRP's recommendation of an annual personal exposure limit of 0.01 mSv and an annual dose commitment of 1 man Sv. Domestic standards and practices will follow IAEA and other international organizations guidelines for the disposal of LILW to ensure safe radioactive waste management. To safely transport radioactive materials, safe transportation technology will be developed and implemented. It is the goal of the government to safely manage accumulated radioactive wastes. For the latter, due to the high radioactivity of spent fuel, an interim storage facility of an appropriate size will be designed and constructed to prevent radiological accidents and securely manage spent fuels. Korea will participate and collaborate with international organizations and countries to share and exchange information.

**Cross-Sectoral Issues**

1. **Decision-Making Structure:** The Ministry of Science and Technology is responsible for the control of transport, handling, and disposal of radioactive industrial wastes.

2. **Capacity-Building/Technology Issues:**

3. **Major Groups:** Residents participate in the public hearing process.

4. **Finance:**

5. **Regional/International Cooperation:** Korea participates in joint research and expert meetings held by international organizations, such as the IAEA to collaborate with other countries and to exchange information and experiences related to spent fuel management. Korea also participates in IAEA and NEA's research programs related to safe radioactive waste management.

**STATISTICAL DATA/INDICATORS**

## AGENDA 21 CHAPTER 23-32: MAJOR GROUPS

**The role of major groups are also covered under the various chapters of Agenda 21. The following is a summary of main objectives outlined in Agenda 21. Please check the appropriate boxes and describe briefly any important steps or obstacles.**

### STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

**Ch. 24: GLOBAL ACTION FOR WOMEN TOWARDS SUSTAINABLE AND EQUITABLE DEVELOPMENT.**
**The Convention on the Elimination of All Forms of Discrimination Against Women was** signed in May, 1983; ratified in Dec, 1984.

**24.b** Increasing the proportion of women decision makers.

| Percentage of women: | **1992** | **1996** |
|---|---|---|
| in government % | 0.8 | 2.3 |
| in parliament % | 1.0 | 3.0 |
| at local government level % (local Assembly) | 0.9 | 2.3 |

**24.2.e** assessing, reviewing, revising and implementing curricula and other educational material with a view to promoting dissemination of gender-relevant knowledge.
Curricula and educational material

- [✓] already promote gender relevant knowledge
- [ ] is being revised
- [ ] No action yet

**24.2.f and 24.2.c** formulating and implementing policies, guidelines, strategies and plans for achievement of equality in all aspects of society, including the issuance or a strategy by year 2000 to eliminate obstacles to full participation of women in sustainable development. Policies/strategies etc. have been

- [ ] drawn up/ completed
- [✓] are being drawn up
- [ ] will be in place by 2000
- [ ] no plans at present

**24.2.d** establishing mechanisms by 1995 to assess the implementation and the impact on the development and environment policies and programmes on women

- [ ] Mechanisms are in place
- [ ] Mechanisms are being developed
- [✓] No plans at present

**Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):**

- The National Action Plan for Agenda 21 assures women's participation in the environment/development and political decision-making processes. In 1995, the committee for Globalization Policy, a consultative body to the President, reported on the Ten Tasks to Expand Women's Social Participation. Relevant ministries are formulating measures to implement the Ten Tasks. The Basic Act for Women's Development legislated in 1995, includes provisions which deal with responsibilities of the state/local government to provide legal/institutional/financial measures to promote women's welfare (including "temporary measures in favor of women"). The establishment of Eliminate Gender Discrimination Committee, and the establishment of Women's Development Fund are a few examples of the measures taken by the government.

## STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

**Ch. 25: CHILDREN AND YOUTH IN SUSTAINABLE DEVELOPMENT.**

**25.4** establishing processes that promote dialogue between the youth and government at all levels and mechanisms that permit youth access to information and opportunity to present their views on implementing Agenda 21.

Name relevant youth fora (3-4 most important):

1. Environment Scout
2. Seoul Youth Committee(with Korea institute for Youth Development)
3. Boy scouts of Korea
4. Girl scouts of Korea

**Describe their role in the national process:** ☐ Full participants ☑ advisory ☐ Ad hoc

**25.6** reducing youth unemployment

Youth unemployment 1992: 7.7% 1996: 6.3%

**25.5** ensuring that by year 2000 more than 50% of youth -- gender balanced -- have access to appropriate secondary education or vocational training.

The goal set in Agenda 21:

☑ has been reached ☐ will be reached by year 2000 ☐ will be reached by year ------ ☐ No goal set yet nationally

**Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):**

- Since 1960, our country has pursued the national tasks of expanding educational opportunities and creating employment opportunities for adolescents. Therefore, in 1988, the Youth Development Act was promulgated. This act provides social and political foundation for healthy adolescent development.

- The following four program areas were established in order to ensure a brighter and healthier future for the youth and children.

(1) Increase in healthy activities for children, youth, and environmentally friendly life style.

(2) Improvement of welfare assistance to disadvantaged youth and support of their environment protection efforts.

(3) Expanding adolescents' social participation and establishing an information exchange network on environmental issues.

(4) Increase in the international exchange programs for the environmental consciousness of youth.

## STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

**Ch. 26: RECOGNIZING AND STRENGTHENING THE ROLE OF INDIGENOUS PEOPLE AND THEIR COMMUNITIES.**

**26.3.a** establishing a process to empower indigenous people and their communities -- through policies and legal instruments:

☐ in place ☐ not in place

**26.3.b** strengthening arrangements for active participation in national policies

☐ indigenous people participate fully in appropriate national processes ☐ indigenous people participate as advisors ☐ not relevant

☐ indigenous people participate on an adhoc basis ☐ indigenous people do not yet participate

**26.3.c** involving indigenous people in resource management strategies and programmes at the national and local level.

☐ indigenous people are fully involved ☐ mechanisms for involvement being discussed ☐ no action yet

**Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):**

- In Korea, there are no groups classified as indigenous people as defined in Agenda 21. Thus, it is unnecessary to establish a national policy. However, the government participates in the international efforts to protect the indigenous population.

**Ch. 27: STRENGTHENING THE ROLE OF NON-GOVERNMENTAL ORGANIZATIONS: PARTNERS FOR SUSTAINABLE DEVELOPMENT.**

**27.5** developing mechanisms that allow NGOs to play their partnership role responsibly and effectively.
**27.6** reviewing formal procedures and mechanisms to involve NGOs in decision making and implementation.
**27.8** promoting and allowing NGOs to participate in the conception, establishment and evaluation of official mechanisms to review A21 implementation.

☑ mechanisms exist already ☐ mechanism planned for 199- ☐ NGOs are participating fully

☑ NGO inputs are important ☐ NGOs inputs are adhoc ☐ no significant NGO inputs

27.7 establishing a mutually productive dialogue by 1995 at the national level between NGOs and governments.

**Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):**

- The role of NGOs is critical in promoting environmentally sound and sustainable development. Accordingly, through the National Declaration for Environmental Protection of 1992, the government expressed its commitment to support activities of NGOs As of 1995, there have been approximately 200 active NGOs working on environmental issues in Korea. These NGOs have made significant contributions by raising public awareness on environment conservation issues.

## STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

### Ch. 28: LOCAL AUTHORITIES' INITIATIVES IN SUPPORT OF AGENDA 21.

**28.2.d** encouraging local authorities to implement and monitor programmes that aim to ensure participation of women and youth in local decision making.
There are at least ------ local agenda 21s. -----% involve representation of women and/or youth
They involve ----% of population
Government support of local agenda 21 initiatives:

- [x] supports
- [ ] plans to support
- [ ] does not support

**Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):**

- As of 1995, Korea has 15 large communities (1 capital metropolitan city, 5 metropolitan cities and 9 provinces) and 230 local governments (smaller cities, city districts, and counties). All local governments are revising and developing existing and new environmental programs in conjunction with the National Action Plan. Local governments should, in cooperation with the central government, identify priorities and find solutions for global environmental problems.

### Ch. 29: STRENGTHENING THE ROLE OF WORKERS AND THEIR TRADE UNIONS.

**29.2** full participation of workers in the implementation and evaluation of A21.
**29.3 a to e** (By year 2000, (a) promoting ratification of ILO conventions; (b) establishing bipartite and tripartite mechanism on safety, health and sustainable development; (c) increasing number of environmental collective agreements; (d) reducing occupational accidents and injuries; (e) increasing workers' education and training efforts.

- [ ] ILO Conventions have been ratified
- [ ] will be ratified by year 2000
- [ ] Workers take full part in National Agenda 21 discussions/implementation
- [x] Workers take some part in National Agenda 21 discussions/implementation
- [ ] Workers do not yet participate in National Agenda 21 discussions/implementation

**Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):**

- Labour and management discuss and decide together the matters of industrial safety and health through participation the representatives of workers in the industrial safety and health committee.

- In order to strengthen the role of workers and their trade union, chemical plants with major harmful and hazardous facilities will periodically submit the process safety management reports to the Ministry of Labour, and companies handling chemical substances will instruct the employees by using material safety data sheets.

## STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

**30: STRENGTHENING THE ROLE OF BUSINESS AND INDUSTRY.**

**30.6** increasing the efficiency of resource use, including reuse, recycling, and reduction of waste per unit of economic output.

- [x] There are governmental policies encouraging the above objective
- [x] There are governmental policies requiring recycling etc.

**30.18.a** encouraging the concept of stewardship in management and use of natural resources by entrepreneurs.

**List any actions taken in this area:**

- In order to promote cleaner production, the government has designated 8 research institutions as a 'cleaner production technology assistance center' in order to provide technological assistance to small and medium entrepreneurs.

- In order to promote environmentally-friendly industry, the government is encouraging collaborations between large and small-medium enterprises and between academia and research organizations and relevant foreign and international organizations.

- In order to disseminate the environmental performance evaluation system, the government established the Korean Accreditation Board in 1995. The KAB is in charge of designating organizations for certification of ISO 14000. As of October 1996, 4 organizations were designated as certified organizations.

- In order to encourage voluntary efforts by industries, the government has designated the Korea Chamber of Commerce as 'Headquarters for Promotion of Environmentally Friendly Industry'. The KCC plans to take a leading role in expanding environmental management by industry.

**30.18.b** increasing number of enterprises that subscribe to and implement sustainable development policies.

- [x] Most big enterprises have adopted sustainable development policies
  Number of enterprises (---------) or ---% of enterprises
- [ ] Several big enterprises have adopted sustainable development policies
  Number of enterprises (---------) or ---% of enterprises
- [ ] A few big enterprises have adopted sustainable development policies
  Number of enterprises (---------) or ---% of enterprises
- [ ] Most Small and Medium sized enterprises have adopted sustainable development policies
  Number of enterprises (---------) or ---% of enterprises
- [x] Several Small and Medium sized enterprises have adopted sustainable development policies
  Number of enterprises (---------) or ---% of enterprises
- [ ] A few Small and Medium sized enterprises have adopted sustainable development policies
  Number of enterprises (---------) or ---% of enterprises

**Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):**

- In Korea, industries and businesses are increasingly taking voluntary initiatives for environmental management, including environmental declarations recently announced by some enterprises. Businesses and industries should furthermore recognize that environmental management is the key factor to sustainable development, and regard it as one of the highest corporate priorities. The government enacted "Act relating to Promotion of Environmentally Friendly Industry" in 1995 in order to promote industries' voluntary effort for environmental management.

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## STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

**Ch. 31: SCIENTIFIC AND TECHNOLOGICAL COMMUNITY.**

**31.3.b** improving exchange of knowledge and concerns between science and technology community and the general public.

- ☐ scientific community has already established ways in which to address the general public and deal with sustainable development
- ☑ there is some effort in this direction
  - brief description: Development of the Comprehensive Environmental Information Network
- ☐ Not much has changed in this area

**31.9** developing, improving and promoting international acceptance of codes of practice and guidelines related to science and technology and its role in reconciling environment and development.

**Brief comments on this chapter not already described in chapter 35 (maximum 100 words) (please, do not exceed this page):** The Korean Comprehensive Association of Science and Technology (KCAST), an aggregate of Korean academic organizations, adopted the ethical principles of scientists and engineers in 1972. In April 21, 1980, KCAST adopted the creeds of scientists and engineers, including the creed of dedication to the general welfare of society.

**Ch. 32: STRENGTHENING THE ROLE OF FARMERS.**

**32.5.c** promoting and encouraging sustainable farming practices and technologies.

**32.5.e** developing a policy framework that provides incentives and motivation to farmers for sustainable and efficient farming practices.

**32.5.f** enhancing participation of organizations of farmers in design and implementation of sustainable development policies.

**Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):**

## AGENDA 21 CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

**Financial resources and mechanisms are also covered under each sectoral chapter of Agenda 21 where relevant. This summary highlights broader national financial policies, domestic and external (including ODA)**

**NATIONAL PRIORITY:**

**STATUS REPORT:**

- To mobilize financial resources and to address domestic environmental problems, Korea endeavors to achieve a balanced fiscal operation. In January 1995, the government established the Special Account for Environmental Improvement. The Account will be used to finance environmental improvement projects, environmental infrastructure construction projects, and environmental technology development projects by the national and local governments.

**CHANGES IN NATIONAL BUDGET TO ADDRESS SUSTAINABLE DEVELOPMENT:**

- The existing Special Account for Environmental Improvement acts as a mechanism for the comprehensive management of environmental financial resources. The objective is to establish an efficient and integrated management system of financial resources which allows for clear linkage between mobilization and expenditure of resources.

**NEW ECONOMIC INSTRUMENTS:**

- To improve the efficiency of environmental management and finance the cost of environmental protection, Korea has introduced economic measures, such as the Emission Charge System, the Environmental Improvement Charges, the Deposit-Refund System and the Waste Treatment Charge System.

**ELIMINATION OF ENVIRONMENTALLY UNFRIENDLY SUBSIDIES:**

- Korea is in the process of identifying environmentally-unfriendly subsidies based on empirical evidence of the effects of various subsidies sensitive to Korea's specific natural and socio-economic conditions and the specificity of the sectors and means involved.

KOREA

**ODA policy issues**

☑ donor country ☐ Recipient

| STATISTICAL DATA/INDICATORS | | | | | | |
|---|---|---|---|---|---|---|
| | **1992** | **1993** | **1994** | **1995** | **1996** | |
| ODA funding provided or received (Total US$million) | 76.8 | 115.56 | 143.22 | 115.99 | - | |
| | **Average for 92-93** | | **Average for 94-96** | | | |
| Net flow of external capital from all sources as % of GDP | | | | | | |
| Other data | | | | | | |

## AGENDA 21 CHAPTER 34:TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING

**Transfer of environmentally sound technology, cooperation and capacity-building is also covered under each sectoral chapter of Agenda 21 where relevant. This summary highlights broader national policies and actions relating to chapter 34.**

**NATIONAL PRIORITY:**

**STATUS REPORT ON LINKS BETWEEN NATIONAL, REGIONAL AND INTERNATIONAL INFORMATION NETWORKS/SYSTEMS:**

- Twenty six organizations in Korea are currently registered with UNEP's INFOTERRA, an international information exchange system which promotes international exchange of environmental information worldwide. INFOTERRA is designed to meet the demands of countries for the prompt exchange of information on environmental planning, policies, research, and technology development. Another way to access information is through DIALOG of the United States, the world's largest information bank, and domestic communications networks such as CHOLLIAN of DACOM, KINITI-IR of the Korean Institute of Industrial Technology and Information, HiTEL of the Korean Telecommunication Authority, and KOSIS (Korea Statistical Information System) of the National Statistical Office.

- Regional environmental cooperation agreements have been established with Korea. For example, an agreement signed with Japan joined two countries for environmental preservation technology development and management, especially for marine environment around the region. The agreement with China signed in 1996, focuses on the technological development for studying vehicle emission, reducing acid rain, and converting solid wastes produced in urban areas into fertilizers. With Russia, an agreement was signed to promote the exchange of information and experiences in environmental preservation.

**MEANS OF IMPLEMENTATION:**

- The government is planning to connect foreign information networks such as JOIS, Internet, Europa Net, and STN and overseas information networks such as JICST, NTIS, TIB, BL, and INIST with domestic networks to allow domestic consumers of environmental technologies to have access to environmental technology available in foreign countries. To establish an information network that can collect, process, and distribute information on environmental technologies, the government will add to the existing information network a new field for information on environmental technologies and establish a computer information network for collecting, processing and disseminating environmental technologies. In addition, in order to facilitate the transfer of environmental technologies, Korea will hold various international environmental conferences, send delegates to participate in international events and soften regulations and provide economic incentives to encourage the transfer of environmental technologies by private enterprises.

• Describe any work being undertaken at the national or local level regarding efforts to promote clean production processes and/or the concepts of eco-efficiency. These processes may include training, preferential financial arrangements, information dissemination and changes in legal or regulatory frameworks.

- Highly Advanced National Project (HAN Project), one of the environmental research projects in Korea, includes a technology project which covers non-pollution process technology, clean product development, and clean production method development. Its budget in 1995 amounted to $3.14 million which was financed by the government and private sectors, such as corporations, universities, and research institutes.

- In 1995, MOE decided to introduce the Environment Friendly Business Operation [EFBO] program which seeks to revise current environmental policy foundation to a more environmentally friendly program. EFBO program is defined as an proactive management practice. Business organizations adopting this method are asked to strictly re-evaluate, manage, and develop new environmentally friendly product designs, production process, and final treatment process. The evaluation of environmental impacts includes whole aspects of operations from product design to raw material acquisition, input, production and post treatment of pollutants. The EFBO program also includes revised environmental preservation standards, clearly defined roles and responsibilities, public education and an awareness training program, prevention and clean up procedures, in house environment inspection plans and urgent action plans. MOE expects industries to implement low pollution level and environmentally friendly pollution abatement production processes. The EFBO program encourages proactive role of industries and cooperation between industries and the government, and urges NGOs to develop innovative technologies and practices.

• Provide information on the adoption of environmental management systems. National reaction to environmental management system standards such as the ISO 14000 Series and others. Please note efforts made at the national level to promote their adoption and the creation of certification infrastructure in order to facilitate access to these standards to local industry.

- In order to strengthen precautionary environmental conservation policy more effectively, the ISO 14000 was introduced by the Ministry of Trade, Industry, & Energy(MOTIE) under the legal basis of the Environmentally-Friendly Industrial Structure Promotion Act. However, realizing that private accreditation bodies that are on a non-governmental voluntary basis would better integrate and coordinate, the Korea Accreditation Board (KAB) was established in 1996. KAB has been carrying out the Pilot EMS Certification Program where 37 enterprises are involved.

• List and describe programs or work under way to facilitate the transfer of ESTs to small and medium sized enterprises. Please note efforts to facilitate access to financial resources and other transfer strategies.

- To boost environmental industries, benefits and financial support are used as a major tactic to facilitate the transfer of EST to small and medium enterprises. In various tax benefits, tax deductions are given for investment in anti-pollution facilities and waste recycling, while environmental equipment imports qualify for tariff reductions, and environmental companies qualify for special tax rates in accordance with the Basic Small and Medium-sized Company Act. At the same time, the government has extended long-term, low-interest loans to companies through the Industrial Development Fund and the Environmental Pollution Prevention Fund, etc., for the establishment of facilities to treat, prevent, or recycle pollutants.

## AGENDA 21 CHAPTER 35 :SCIENCE FOR SUSTAINABLE DEVELOPMENT

**NATIONAL PRIORITY:**

**STATUS REPORT ON NATIONAL SCIENTIFIC KNOWLEDGE, RESEARCH NEEDS AND PRIORITIES:**

- Scientific technology development should meet the needs of the times, such as solving global problems in harmony with promoting the socioeconomic system, as well as pursuing the goal of improving scientific technology itself. In order to achieve the framework of national development and to make a contribution to the improvement of the quality of life, while satisfying socioeconomic needs and contributing to the common prosperity of the planet earth and human beings, a long term development program in the field of scientific technology will soon be established and carried out.

- This long-term development plan emphasizes the need for promoting basic scientific research, improving the technological infrastructure, training scientific technicians and developing technology for the public well-being. These needs will be met by optimizing existing projects such as the current Five-Year New Economy Plan (1993-1997) and the Ten-Year Environmental Science and Technology Development Plan (1992-2001).

- The promotion of environmental technology, in close cooperation with industries, academic institutes, and research institutes, is necessary to improve domestic environmental conditions and contribute to the international effort to solve global environmental problems. In order to increase the contribution of science and technology for sustainable development, scientific basis and developmental capacities will be strengthened, general scientific awareness be enhanced, and the assessment of environmental impact will be improved.

**STEPS TAKEN TO ENHANCE SCIENTIFIC UNDERSTANDING, IMPROVE LONG TERM SCIENTIFIC ASSESSMENT, BUILDING OF CAPACITY AND CAPABILITY:**

- To enhance scientific understanding, standardization of environmental monitoring methods for air, water, soil, wastes, and vehicle emissions will be pursued through increased investments in new technology in order to understand its current condition. An information network will be developed in cooperation with KETRI, KINITI and KORDIC. The efficiency of environmental impact assessment has been promoted in the Environmental Impact Assessment Act by strengthening the links between the process of assessment and project approval by enhancing management and supervision of projects after assessment and also by reinforcing the role of projects approval authorities.
To build capacity and capability, the government is selecting a strategic field of technology at the national level and training qualified scientific and technological personnel by strengthening the scientific infrastructure in universities with expanded financial support and an increase in the number of college students in science and engineering classes. The government will build alliances between industries and research institutions so that people can be trained by the institutions and later work for the industries. The government will also improve the quality of scientific knowledge learned through supporting international exchange programs such as postdoctorate programs abroad.

| STATISTICAL DATA/INDICATORS | | | |
|---|---|---|---|
| | | Year | |
| Number of scientists, engineers and technicians engaged in research and experimental development | # 117,446 | 1994 | |
| Total expenditure for research and experimental development (US$eq.) | US$ 9.87billion | 1994 | |
| Other data | | | |

## AGENDA 21 CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

**NATIONAL PRIORITY:**

**STATUS REPORT:** With the increase of GNP, the public demand for a safe and healthy environment has increased significantly. The heightened public interest has led to environmental preservation campaigns such as "Save Our Streams" and the "Green Life Movement" by the media. The government has taken initiatives on environmental protection movements by increasing public awareness of environmental issues through the sponsoring of events such as the "Water Day" and "Environment Day". The government has also conducted many programs to inform the general public on environmental issues and to encourage environmentally friendly lifestyles through the distribution of leaflets, brochures, and audiovisual information. As environmental consciousness rises, environment-related subjects are increasing in agricultural and vocational high schools and in colleges specializing in training technology experts. The government will continue to integrate various forms of environmental education and training at all stages to promote public awareness in order to build an environmentally friendly society.

**a) Reorientation of education towards sustainable development**

- To provide students with opportunities to learn environmental subjects, the government is expanding the number of teachers who will be specialized in environment subjects, and preparing efficient teaching materials for environment-related subjects for grade schools, middle schools, and high schools by consolidating the operation of the Environment Conservation Model School, established in 1985. The government will develop and implement Site Participation Environmental Education Programs such as 'Inspection of Local River Contamination', and an 'Environmental Basic Facility Visit' as curricular classes or during outside-class learning.

**b) Increasing public awareness**

- In cooperation with national TV stations, cable TV networks, and local networks, the government began broadcasting a regular program on environmental issues to promote public awareness of the global environment, and encouraged government public relations work, private business advertisements, and other media campaigns to incorporate the environmental agenda.

**c) Promoting training**

- For the Environmental Officials Training Institute and the Association for Environment Conservation, the government established an effective educational and training system for government employees and technical experts working on environmental issue. Therefore, the government is assisting private sectors and NGOs in operating various environmental education programs to enhance public awareness of citizens on environment and development.

**ROLE OF MAJOR GROUPS:**

- The National Council of Environmental Organizations plays an important role as an NGO forum to reflect citizens' concerns and opinions regarding policy-making. Major NGOs in Korea participate in this council.

**FINANCING AND COST EVALUATION OF THE LABOUR ACTIVITIES:**

| STATISTICAL DATA/INDICATORS | | | | |
|---|---|---|---|---|
| | 1980 | 1990 | Latest 1995 | |
| Adult literacy rate (%) Male | - | - | - | |
| Adult literacy rate (%) Female | - | - | - | |
| % of primary school children reaching grade 5 (1986-97) | 100 % | 100 % | 100 % | |
| Mean number of years of schooling | 11.563 | 13.17 | 13.821 | |
| % of GNP spent on education | 3.2 % | 3.2 % | 3.8 % | |
| Females per 100 males in secondary school | - | - | 96.6 | |
| Women per 100 men in the labour force | 61.7 | 68.9 | 67.7 | |
| Other data | | | | |

KOREA

**AGENDA 21 CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR CAPACITY-BUILDING IN DEVELOPING COUNTRIES**

**National capacity building is also covered under sectoral chapters.**
**Donors: You may wish to describe here how Agenda 21 has influenced your ODA policies in this area.**
**Developing countries: You may wish to describe any new national mechanisms for capacity building - and any changes in technical cooperation.**

**NATIONAL PRIORITY:**

**STATUS REPORT ON NATIONAL ENDOGENOUS CAPACITY BUILDING:**

- Capacity building is crucial for enhancing the ability to evaluate and resolve various problems related to selecting environmentally friendly and sustainable development policies. In its National Action Plan for Agenda 21, Korea promised to foster international cooperation in order to support other developing countries with various forms of assistance and collaboration. A standardized evaluation method and mechanism will be developed to take both environmental and development aspects of policy alternatives into account.

- The development of technology, specialized personnel, and institutional capacities for the implementation of Agenda 21 is necessary, especially to the developing countries. In 1992, Korea launched the Ten Year Project to develop new and innovative environmental technologies in order to enhance environmental protection and conservation capabilities. Furthermore, Korea plans to establish joint-research systems involving companies, universities and government-sponsored research institutions. A comprehensive data base of environmentally sound technologies will be compiled to form a new information system which will facilitate the effective transfer of technologies and experiences.

## AGENDA 21 CHAPTER 38: INTERNATIONAL INSTITUTIONAL ARRANGEMENTS

**Ch. 38: Brief summary of any particular UN System response affecting this country/state:**

- The creation and readjustment of institutional arrangements within the UN system are indispensable and an effective participation by private sectors such as local organizations, scientific groups, and environmental NGOs should be encouraged in order to follow up with the results of the United Nations Conference on Environment and Development. The long-term objectives of these arrangements are to integrate environment and development at national, regional, and global levels. The short-term objectives are to promote the role of the UN system in the field of environment and development, to strengthen coordination and cooperation within the UN system on environment and development, to encourage cooperation and interaction between the UN organizations and other international organizations, including NGOs, and to coordinate and encourage national, sub-regional and regional activities in the field of environment and development. The objective of the government is to actively participate in the international discussions on the implementation of Agenda 21 and on the results of UNCED, to create an institutional basis for environmental cooperation among North-East Asian countries, and to strengthen existing national institution to facilitate the effective implementation of Agenda 21.

## AGENDA 21 CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

**Ch. 39: International Legal Instruments are covered under the relevant sectoral chapters. This is a listing of major agreements/conventions (not already covered) entered into and relevant to Agenda 21:**

- International laws and regulations need to be developed in order to harmonize environmental protection and economic development. Specifically, the technical capacity-building of developing countries is necessary to increase law-making capabilities in the field of sustainable development. The efficiency of international conventions is crucial and should be promoted for the purpose of integrating environment and development. International cooperation should be facilitated in order to create international standards for environmental protection. Such international cooperation will further enhance the effectiveness of institutions, mechanisms and procedures dealing with the implementation of international conventions. Measures should be developed to avoid and settle international conflicts and disputes between environmental conventions and conventions in the socio-economic arena by taking into account the dispute settlement procedures set forth in existing international agreements.

- The government is planning to actively participate in the negotiation of new or revised international environmental rules, including follow-up meetings for the implementation of existing international agreements. The government will implement environmental agreements such as the UN Framework Convention on Climate Change, the Convention of Biological Diversity, the London Convention, and the Basel Convention, etc. The government will also substantiate bilateral environmental cooperation agreements signed with Japan, China, and Russia as well as facilitate environmental cooperation mechanisms with the U. S. A., Mongolia, Australia, Canada, and the EU member countries. The government will streamline institutions and laws to honour international agreements with amendments and regulations.

## AGENDA 21 CHAPTER 40: INFORMATION FOR DECISION-MAKING

**This chapter is also covered under sectoral and other chapters of this profile. The matrix below gives an overview of how national authorities rate the available information for decision making.**

**Rating of available data and information suitable for decision-making**

| Agenda 21 Chapters | | Very good | Good | Some good data but many gaps | Poor | Remarks |
|---|---|---|---|---|---|---|
| 2. | International cooperation and trade | | | • | | |
| 3. | Combating poverty | | • | | | |
| 4. | Changing consumption patterns | | | • | | |
| 5. | Demographic dynamics and sustainability | • | | | | |
| 6. | Human health | • | | | | |
| 7. | Human settlements | | | • | | |
| 8. | Integrating E & D in decision-making | | | • | | |
| 9. | Protection of the atmosphere | | • | | | |
| 10. | Integrated planning and management of land resources | | | • | | |
| 11. | Combating deforestation | | • | | | |
| 12. | Combating desertification and drought | | | | | |
| 13. | Sustainable mountain development | | | • | | |
| 14. | Sustainable agriculture and rural development | | | • | | |
| 15. | Conservation of biological diversity | | | • | | |
| 16. | Biotechnology | | | • | | |
| 17. | Oceans, seas, coastal areas and their living resources | | • | | | |
| 18. | Freshwater resources | | • | | | |
| 19. | Toxic chemicals | | | • | | |
| 20. | Hazardous wastes | | | • | | |
| 21. | Solid wastes | | • | | | |
| 22 | Radioactive wastes | • | | | | |
| 24. | Women in sustainable development | | • | | | |
| 25. | Children and youth | | • | | | |
| 26. | Indigenous people | | | | | |
| 27. | Non-governmental organizations | | | • | | |
| 28. | Local authorities | | | • | | |
| 29. | Workers and trade unions | | • | | | |
| 30. | Business and industry | | • | | | |
| 31. | Scientific and technological community | | • | | | |
| 32. | Farmers | | • | | | |
| 33. | Financial resources and mechanisms | | • | | | |
| 34. | Technology, cooperation and capacity-building | | • | | | |
| 35. | Science for sustainable development | | • | | | |
| 36. | Education, public awareness and training | | • | | | |
| 37. | International cooperation for capacity-building | | • | | | |
| 38. | International institutional arrangements | | • | | | |
| 39. | International legal instruments | • | | | | |
| 40. | Information for decision-making | | • | | | |

**Additional Comments**

**STATISTICAL DATA/INDICATORS**

| | 1980 | 1993 | Latest 1995 |
|---|---|---|---|
| Number of telephones in use per 100 inhabitants | 8.4 | 37.8 | 41.5 |
| Other data | | | |